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FIELD-MARSHAL VISCOUNT MOLESWORTH.[1]

THE bronze medal here represented is extremely rare, and unfortunately its present owner cannot be traced. It was brought to the notice of the late John Kermack Ford, Esq., of Southsea—a well-known medal collector—who obtained a photograph of the medal about 1870. The *obverse* bears the profile of Captain (afterwards Field-Marshal Viscount) Richard Molesworth, habited as a Roman warrior, with the inscription round the margin, "Riccard Molesworth Brit. Trib. Mil." On the *reverse* a figure of Victory leading by the hand a warrior, trampling on broken artillery, with motto, "Per Ardua." The medal in question was struck in honour of Captain Molesworth, A.D.C. to Marlborough at the battle of Ramillies, having at the manifest hazard of his own life preserved that of the Duke. The incident is a well-known historical fact, but for certain reasons was hushed up at the time.

This distinguished soldier was the second son of the first Viscount Molesworth. He was educated for the law and sent to the Temple to finish his studies; but preferring a more active life he went to Flanders, on the outbreak of war in 1702, and served as a volunteer. Through the favour of his father's friend, the Earl of Orkney, he obtained an ensigncy in the Royal Scots, his commission being dated 14th April, 1702. At Blenheim, he commanded a company of aforesaid corps. He served as A.D.C. to Marlborough at Ramillies, and for some years subsequently. He was appointed Captain and Lieut.-Colonel in the Coldstream Guards, 5th May, 1707, serving at the Relief of Brussels in 1708. At the siege of Mons in 1709, he was blown up by a mine, but was little the worse for his aerial flight. He succeeded to the command of Colonel Moor's late regiment of foot, 9th June, 1710. Served in Spain with his corps, which was

[1] Contributed by Charles Dalton, Esq.

disbanded at the Peace of Utrecht. Appointed to the command of a newly raised dragoon regiment in 1715. Served with the same at the battle of Preston, where he behaved with great bravery, and was wounded. Elected M.P. for Swordes, and appointed Lieut.-General of the Ordnance in Ireland, 1714. Succeeded his brother John as third Viscount in 1726. Major-General, 18th November, 1735. Lieut.-General, 2nd July, 1739. General, 28th December, 1746. Master-General of the Irish Ordnance, 1st July, 1740. Governor of Guernsey, on the death of the Marquis de Montandre, in 1739. Commander-in-Chief of the Forces in Ireland, 1751. Field-Marshal, 29th November, 1757. F.R.S. and Governor of Kilmainham Hospital. Held at various times the Colonelcy of the Royal Inniskilling Fusiliers, the 9th Lancers, and lastly the Royal Irish Dragoons.

Viscount Molesworth died 13th October, 1758. He was twice married, and by his second wife left a son, who succeeded as fourth Viscount. Walpole, in his "Royal and Noble Authors," refers to the following military tract:—"A short course of standing rules for the Government and Conduct of an Army, designed for use in the field. With some useful observations drawn from experience, by the Right Honourable Lord Molesworth, Lieut.-General of His Majesty's Forces."

NATIONAL DEFENCE:

THE DUTIES LIKELY TO DEVOLVE ON THE VOLUNTEERS IN CONNECTION THEREWITH. SOME SUGGESTIONS AS TO HOW WE MAY BEST FIT OURSELVES FOR THE TASK.[1]

By Colonel J. D. LEGARD, p.s.c. (Brigadier-General Commanding the East Yorkshire Volunteer Infantry Brigade).

Friday, 17th May, 1901.

Lieut.-General Lord WILLIAM F. E. SEYMOUR in the Chair.

THE subject of National Defence is a very wide one. In what I have to say to-day I propose to take only one aspect of it, viz., the purely local defence of the United Kingdom and more especially of the capital. It is almost certain that any serious attack made by an invader would be directed against London.

I propose, therefore :—

1. To take a general view of some of the strategical aspects of the question of the attack and defence of London and the arrangements that have been, or are being, made for the defence by our Volunteer Brigades and Field Army.
2. To consider the duties likely to devolve upon Volunteer officers when called upon to take part in that defence.
3. To suggest some methods whereby we can fit ourselves to perform the task.

I shall divulge no official secrets, even were I able to do so. What I have to say is based entirely on public speeches in Parliament and elsewhere, and in what has been published in books and magazines dealing with the subject. I shall say nothing, in short, that is not perfectly well-known in the Intelligence Departments of any foreign nations who have considered the possibility of an invasion of England.

We do not, I think, fully realise the possibility of London being attacked, or we think the probability so remote as to be hardly worth considering. Practically many of us, I fear, rely upon our fleet to render an invasion of England impossible. Whether or not our fleet is able to perform this task, I am not competent to discuss. It is a question entirely for naval officers and experts. I think, however, we may safely hazard the conjecture that it is a duty of which our admirals would gladly be relieved. The principle which has ever guided our naval commanders is that of a vigorous offensive—to attack and destroy the enemy wherever

[1] Perhaps I ought to acknowledge here that I have been inspired to give this address by a perusal of a number of essays by Mr. Spenser Wilkinson, collected and republished last year under the title "War and Policy."

he may be found. Surely it would render this duty easier to feel that the safety of the Kingdom and the capital was safely provided for from within—that our admirals might go to sea without anxiously looking over their shoulders to see whether an enemy was knocking at the back door.

At any rate in 1889 the possibility of invasion was admitted, because in that year serious plans were made to meet it. Whatever the possibility of invasion was then, it still exists. There are many considerations which tend to prove that the danger is even greater now that it was twelve years ago. I will briefly explain why.

No doubt our naval defences had touched low-water mark, and we have created a most formidable fleet of ships of the newest type since 1889—but our neighbours have been doing the same. To-day we should be able to overpower with certainty the fleet of any *one* European Power, probably of *two* such Powers. If *three* Powers combined to attack us the chances for and against us become about equal. In a few years the balance will be against us.[1]

The most formidable European combination that we could have to face would be that of France, Germany, and Russia,[2] and that is the one

[1] The following extract from their special correspondent at Toulon was published in the *Times* of 30th April last :—

"Probably M. Lockroy is as responsible for the modern vagaries of French naval policy as any man living. In these circumstances it is curious that he should have been fated to tell his countrymen the secret of the strength of those plodding Germans who are now executing a programme for sixteen years to come, which is so carefully thought out on the highest principles of organisation as to command our admiration and provoke our envy. That secret is contained in the saying of M. Lockroy that 'our neighbours breathe the air of history.' The lessons of the past are lost on France, but not on Germany. While France has been subsidising sailing-vessels and wasting money on the creation of fortified bases, Germany has been quietly strengthening the chief sources of naval power; and at the moment when the available shipbuilding resources of France and Russia are being utilised to the full, the German naval programme for the year 1916 is announced. That programme is destined to make Germany the second naval Power in the world, and she will bring to bear on its acceleration the formidable resources of seventeen great shipbuilding yards. This growth from a Navy of one corvette and two gun-boats in 1848, and of twelve armoured vessels and eight gun-boats in 1880, is one of the most striking facts of our times."

[2] The subjoined table is compiled from a Parliamentary Return, dated 29th March, 1901, entitled Fleets (Great Britain and Foreign Countries) :—

	Battle-ships.			Armoured Cruisers.			Protected Cruisers.		
	Built.	Bldg.	Total.	Built.	Bldg.	Total.	Built.	Bldg.	Total.
Great Britain ...	38*	16	54	9	20	29	103	4	107
France	28†	5	33	7	15	22	38	2	40
Germany	19‡	10	29	4	3	7	15	7	22
Russia	15	10	25	11	1	12	3	11	14
Total	62	25	87	22	19	41	56	20	76

* Built since 1880. Great Britain has 12 battle-ships, built prior to 1880, but all except "Bellerophon" (1865) armed with M.L. guns.

† Built prior to 1880, but armed with B.L. guns.

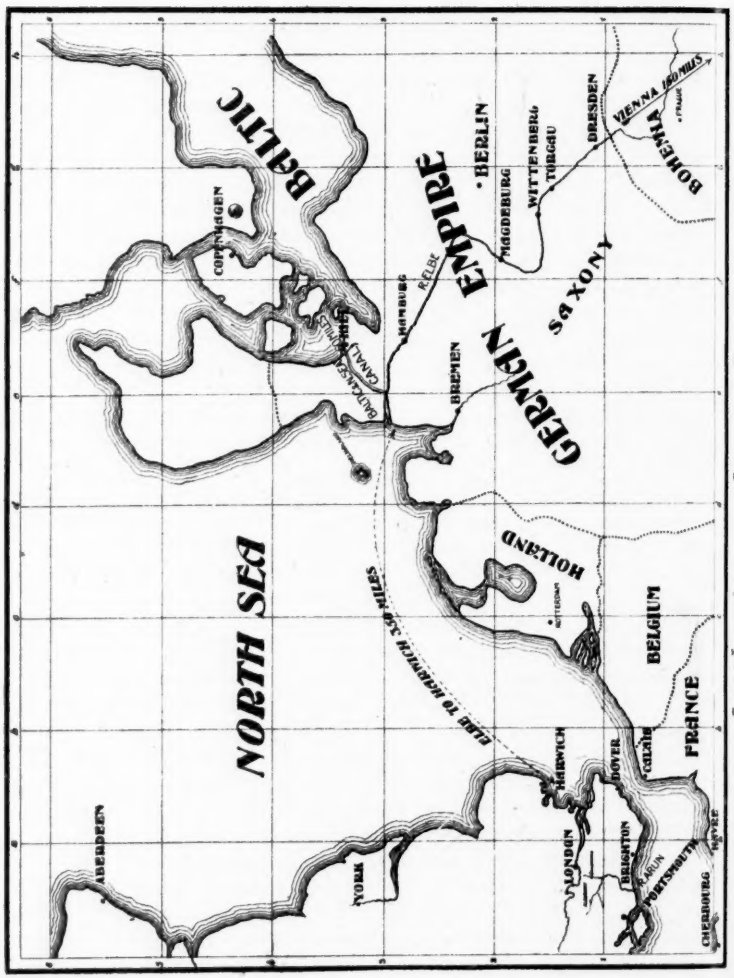
‡ 3 built prior to 1880, but armed with B.L. guns.

I propose briefly to examine. You may say such a combination is improbable, but it is not impossible. The language used in the French Press and in Parliament on the subject of naval preparations always turns on an eventual attack on England. We are constant rivals with Germany as manufacturers, as colonists, and as ocean navigators, and our interests clash at many points. With Russia our relations are in a chronic state of suspicion. Moreover, if Germany were inclined to be friendly, France and Russia are very favourably situated for bringing pressure to bear on her, so that she may find it more in her own interests to keep on good terms with them than with us. Let us see what such a combination against us would mean. At the present time these three Powers have amongst them: 55 first-class modern battle-ships completed and 25 building. At the same time we have 38 first-class modern battle-ships completed and 16 building. All these Powers have announced a largely increased naval programme. Under the German new Navy Law which has just been passed she intends to create a fleet of 38 first-class battle-ships. Russia is increasing the size and number of such ships, while France is directing her energies in a different direction. She is creating an enormous squadron of torpedo-boats and submarine-boats with the avowed object of attacking our fleet. According to the latest French programme, the money for which has already been voted, in 1906 France expects to possess three hundred torpedo-boats and fifty-six submarines or submersibles.

Time would not allow me to go into further details and to discuss the opinions of naval experts as to the value of these different armaments and our means of dealing with them. There is so much uncertainty, however, about war, and especially naval war, that we cannot ignore them.

But since 1889 another strategical situation has been created. Since that date Germany has opened the Baltic and North Sea Canal, running from Kiel to the mouth of the Elbe, and available for her largest battle-ships. At the same time we have voluntarily given up to Germany the Island of Heligoland. The value of this latter to us as an advanced post for the Navy, and as affording shelter to our torpedo-boats and other small craft, is, of course, arguable. No doubt, Lord Salisbury, when he decided to give it up, acted on expert advice, and, presumably, received something in exchange which he considered of equal value.

The Baltic Canal, however, has completely altered the strategical situation to our disadvantage. Prior to its existence it was open to our fleet to watch with ease the narrow waters to the north and north-east of Denmark, and to "bottle up" any hostile fleets which might be found in the Baltic. Now, if it is possible for Russia or Germany to deny the passage of these waters to our fleet, and for Germany to mass the whole of her fleet in the Elbe and North Sea without our consent, and even possibly without our knowledge, it follows that, with a German alliance, or even with the benevolent neutrality of Germany, the Russian Baltic fleet can no longer be restricted to that sea, but may be looked for within striking distance of our coasts.


NORTH SEA
BALTIC
GERMAN EMPIRE
COPENHAGEN
HAMBURG
ELBE
BREMEN
BERLIN
MAGDEBURG
WITTENBERG
TORGAU
DRESDEN
VIENNA 180 MILES
BOHEMIA
HOLLAND
BELGIUM
FRANCE
ABERDEEN
YORK
LONDON
HARWICH
DOVER
BRIGHTON
PORTSMOUTH
CHERBOURG

Another point needs notice. It is doubtful whether France and Russia could collect a fleet of sea-going steamers sufficient to convey a large army to these shores. France only possesses *411* sea-going steamers, many of small tonnage, and probably half of them in Mediterranean ports. Their total gross tonnage is *451,832*. Russia in the Baltic in 1897 had only *95* steamers with a gross tonnage of *19,053*.

Germany, on the other hand, at the same time possessed 705 steamers of 500 tons and upwards, and of these 286 were over 2,000 tons burden. Moreover, they all sailed from Kiel, Hamburg, Bremen, and other Baltic or North Sea ports. Germany, therefore, possesses the means of conveying a large army over sea. She can also embark them without hindrance at many convenient points near to one another, and well connected by railway with the interior. She could probably, if she desired, assemble the whole of her forces at Kiel, Hamburg, Bremen and other ports as quickly as she did on the French frontier in 1870, and with greater safety. An army assembled and embarked at the mouth of the Elbe would be *within twenty-four hours' easy steaming of our coasts and nearer to London than Aberdeen*.

In most of the discussions that have taken place, and works that have been written on the subject, it has been assumed that our enemy will be France, and that the point of disembarkation will be at some point between Dover and Portsmouth. The shore in certain places is what sailors call "steep to," *i.e.*, deep-water approaches close to the beach, and a landing can be covered by the fire of war-ships. The most probable point of landing is also nearer to London than it would be north of the Thames. On the other hand, this coast possesses no harbours of any consequence, and the enterprise would depend almost entirely for success on weather.

The new conditions to which I have just alluded tend to direct our attention more to the eastern coast. From Yarmouth to the entrance of the Thames there are numerous small harbours, which, although not easily accessible for large ships, would, if in the enemy's hands, form suitable landing places for troops and stores from boats and small craft, and which would form secondary bases for an advance inland. The distance to London is somewhat greater, and the intervening country more difficult. On the other hand, our main field army would probably be to the south of London, and its transference to the north would give the invader a somewhat longer time for disembarkation and for an uncontested advance.

It is not improbable that the plan officially sanctioned by our War Office in 1889 for the defence of London is based on the same principles as that proposed by Moltke in 1860 for the defence of Prussia and Berlin against Austria. The one was not based on the other, because Moltke's scheme was secret and has only been published subsequently to 1889, the date when our scheme originated. A glance at the map will make the two positions clear.

Moltke proposed to cover Berlin by a small force protected by entrenchments, and to base his field army in a flank position on the Elbe.

He pointed out that if he was based on Berlin and defeated, he would not only lose the battle but probably Berlin as well. On the other hand, an attack, or threatened attack, from the west would compel the enemy to front in that direction, and, if defeated, to uncover his communications. Moltke's idea was to check the advance of the Austrians by a small entrenched force south of Berlin, and then to make a vigorous attack on his flank from behind the Elbe.

The late Sir Edward Hamley published in 1889 a volume entitled "National Defence," in which the defence of London is discussed. He considered that in the case of an enemy landed near Brighton, and aiming at London, there would be advantage in basing the British field army, not upon London, but upon some other point. Thus he wrote :—

"Based upon Portsmouth, and posted across the Brighton Downs, above the River Arun, it would oblige an invader landed near Brighton to wheel round to attack it, where, if the enemy were decisively defeated, he would not regain his landing place."

The Government scheme for the defence of London was prepared by Sir John Ardagh, the present Director of Military Intelligence, in 1889. Sir E. Hamley was acquainted with it, and from various public utterances that have been made and from a general view of the strategical situation it may be considered not unlikely that in its main features it resembles Hamley's and also that of Moltke for the case of Berlin.

Mr. Stanhope, in announcing the scheme to Parliament in March, 1889, said :—

"There are certain strategical positions round London commanding roads and railways which are essential to its defence. These have been carefully examined by our most experienced officers, and places have been marked out where, upon the occurrence of grave emergency, certain steps, arranged in every way beforehand, could at once be taken. . . . . These are the positions on which, on London being threatened, the defenders of London would in a few days be concentrated and intrenched. . . . . Almost all this work is to be left to be rapidly carried out when the emergency arises."

The Government further declared that the Volunteers who were to defend these sites should from time to time be assembled in the actual localities which they would have to defend so that they might become intimately acquainted with the features of the country, roads, rivers, etc. This, however, does not seem yet to have been carried out.

As will be seen from the map, the selected positions and lines are divided into two sections by the River Thames. That to the N.E. of the river runs from A by B to C. At the south the known sites selected are at G, F, E, and D ; all on the range of the North Downs. The whole of this line is at an average distance from London of 20 miles. The N.E. section is distant from the coast from 10 to 55 miles ; the S.E. section from 30 to 50 miles from the coast line.

For the defence of these lines a number of brigades of Volunteer infantry and a strong force of Volunteer artillery are believed to have

A EPPING
B WARLEY
C TILBURY
D HALSTEAD
E CATERHAM
F BOXHILL
G GUILDFORD —— RAILWAYS
H GILDERSHOT
YARMOUTH
HARWICH
LONDON
DOVER
BRIGHTON
PORTSMOUTH
A
B
C
D
E
F
G
H

been detailed. The total available force, at what appears to be a very moderate estimate, has been given as 120,000 men and 233 guns.

Two possible kinds of attack have to be considered:—1. A raid by a comparatively small force depending for success on rapidity of movement. Such an attack as might be attempted during the temporary absence of our Channel fleet or its occupation elsewhere. It would be in the nature of a surprise. 2. A methodical and deliberate invasion only possible if our fleet had suffered a crushing defeat and if it were for the time disabled. In either case the objective would be London. In either case the attack would be met in the same way. Its immediate entry into London would be barred by partially-trained troops occupying entrenched positions until the field army was ready to fall on the invader's flank.

Mr. Spenser Wilkinson has supposed that the former of these alternatives was possible during the temporary absence of our Channel fleet if some ready and resolute foreign Government were prepared to run the risk of seizing the brief opportunity thus offered for a raid on a large scale. They send their fleet, for the moment superior to any that could be brought against it for a period of ten days, to block the English Channel at Dover, and in the meantime lands several army corps in Essex, carrying a week's supplies, for a rapid march on London. It is obvious that the success or otherwise of his enterprise would greatly depend on whether our Volunteer Army could be quickly mobilised, placed in its allotted position, and prepare the same for defence, before the arrival of the enemy. Therefore celerity of mobilisation and movement are objects we should have in view.

The mobilisation of the field army will be a longer affair than that of the Volunteers, and it will also require time to concentrate and move to the destined point of attack. I do not propose to offer an opinion as to what that length of time would be. If the invasion occurred in the S.E. section it is probable that we could assemble our field army more quickly on the enemy's western flank than would be possible if the invasion came from the N.E. In this latter case it would be necessary to pass the bulk of our field army from the neighbourhood of Portsmouth and Aldershot to some point north of London. In any case, some of our Volunteer brigades would probably in the first instance have to bear the brunt of the attack.

It may be noted in passing that the division of the theatre of operations into two sections by the River Thames gives us a great strategical advantage. The invader must attack either north or south of the river, which being tidal, of considerable width below Tilbury, and bridgeless below London, prevents him from readily moving his army from one section to the other. The defenders, however, have no such limitations, and can pass their forces from one bank to the other on "interior lines" according to the direction of the attack. It follows from this that the defenders of the entrenchments would not sit quietly in their lines where there was no enemy in their front. Some of the

Volunteer brigades would doubtless be transferred from one bank of the river to the other to strengthen the lines opposite the enemy's advance.

Even in the threatened area it is hardly likely that the whole of the Volunteers would remain passively in the prepared positions. Some no doubt would be pushed forward to get in touch with the enemy and assist in local defence and delay. Their cyclists at any rate would be used for this purpose and for scouting and reconnaissance. Under the new arrangements announced by the Secretary of State for War, some of the Volunteers would form part of the field army. In all cases, therefore, whether for active defence or for transference from one part of the defensive line to the other our Volunteer brigades must have mobility.

I do not propose to discuss now the other alternative, viz., a regular invasion. As regards Volunteers, the conditions would be somewhat different. We should have been some time at war and such portion of our Regulars and Militia as remained in England would already be mobilised and assembled in large units. The enemy's movements would be less rapid because he would be moving a much larger force. Some portions of our Regular troops at least would oppose the enemy's first advance. In this case the Regular Army would be mobilised before the Volunteers—in the other the Volunteers would first mobilise to cover the capital during the mobilisation and concentration of the Regular Army.

In either case, however, a large portion of the Volunteers would have to assemble with the least possible delay in their prepared positions, so that the mobile field army might be completely at liberty to perform its allotted task.

It would not be desirable to indicate publicly what individual forces are likely to be allotted to any particular portion of the defensive line. I propose, however, to-day to assume that we are discussing the north-east section of the defence. It is apparent from the map that this section is about equal to one-third of the whole. Other things being equal, we may then assume that one-third of the defensive force would be allotted to it—say, ten or eleven brigades of Volunteer infantry with a proportionate allowance of artillery.

It will be seen that the right flank of our line is amply protected by the Thames estuary, as it is extremely improbable that any armed ships or gun-boats of the enemy would be allowed to pass westward of the Nore. The enemy, moreover, could not advance in a line to the south of the Tilbury-Southend railway, the country being flat, marshy, and intersected by tidal creeks. The actual extent of front, therefore, for the defence, of which this portion of the force would be responsible, may perhaps be taken to extend from near C on the east to A on the west, a total distance of some 25 miles. The actual front, therefore, for each brigade would, in the first instance, and until reinforced, not exceed 2½ miles, giving rather less than 2,000 men to the mile.

The country, with the exception of slight eminences on both flanks, is mostly flat. It is much enclosed, considerably wooded in some places, and intersected by numerous lanes and highways. The main roads and railways spread out, as would be expected, fan-like from London, and

are well suited for reinforcing any portion of the line from a centrally situated reserve.

From the nature of the country, the field of vision would be limited, and movement only possible for large and formed bodies of troops by the roads and numerous and intricate lanes of the country. Scouting would be difficult, and surprises and ambuscades easily contrived. Lateral communications and conveyance of orders would be difficult, especially for the assailant. Troops once engaged would get quickly out of hand, and a general action would resolve itself into a number of small independent combats, depending for the result on the individual leading and conduct of subordinate commanders. In such a country, no reference might be possible to a superior officer, because none might be at hand. Success or failure of the whole fight might not improbably at some critical moment depend on the conduct of the officer in command of a battalion, or half battalion, or even of a single company—who must there and then make up his mind what to do, and do it promptly. These considerations point, I think, to the necessity for all Volunteer officers doing their utmost to prepare themselves for the responsible duties which may at any time fall to them. All writers agree that the main secret of success in war is preparation in time of peace for any emergency which may arise. An officer who has studied his profession will have calmly thought out beforehand what action he would take in any situation that may occur; he can never be taken by surprise, because his mind is fully prepared and action becomes a second nature to him. The officer of our Regular Army has a difficult task owing to the immensity of the field, and great variety of circumstances in which he may be called upon to act. This difficulty becomes far less in the case of the Volunteer. He knows beforehand the nature of his task, the forces which he will have at his disposal, and even the actual field in which he will have to fight.

When, however, we come to consider the situation in more detail, there still appears to be ample scope for previous study. In the country before us a continuous occupation of a defensive line would probably be not necessary, or even possible. The enemy can only advance in force by the roads, and deployment will be difficult and slow. On the other hand, the enclosed nature of the country appears to me rather to favour the attack than the defence. The best, and indeed apparently an insurmountable, obstacle to the attack is a line of good troops under cover with a clear field of fire before them extending to the effective limit of the rifle. In this country such an obstacle will very rarely occur. Where we can get a clear field of fire we can afford to reduce our defending force to strengthen those parts of our line where the assault can be made with greater safety. The defence will almost certainly include the occupation of strong points on the main approaches whence the enemy's deployment can be retarded, and the preparation of such places for defence will be a part of our duty. Elsewhere, entrenchments and spade work will be necessary, and no doubt in some places it is intended to execute field works. But the mere preparation of a defensive position will not be all our task. We must have a covering force in an advanced

position, or an advanced guard covered by outposts to prevent the sudden interruption of our work. It will also doubtless fall to us to delay the enemy's advance by all possible means before he arrives at our main position. The recent war has reminded us on many occasions of the value of an advanced position in front of the main one. The attacker makes all his preparations by artillery fire, forms his forces for attack, and finally assaults the position, only to find that it was held by a small force, and that with his troops out of hand and exhausted the defenders' main position is still untouched. But the enemy's advance will not be unopposed anywhere. From the moment he lands he must find difficulties in his path—small rear-guard actions compelling him to deploy—artificial obstacles requiring time for their removal—ambuscades and surprises—cutting off small parties—and, above all, careful reconnoitring and scouting. These are all duties which will almost certainly fall to some portion of the Volunteer force. Surely an ample field for study.

To sum up, then, the requirements of a Volunteer brigade would appear to be:—

1. The power to mobilise rapidly.
2. Mobility when in the field.
3. A sound knowledge of drill and of the simpler tactical problems suitable to the country in which the Volunteers will operate.

In considering how we may best qualify ourselves to fulfil the above requirements, I shall, in the first case, suggest some directions in which we may move with the means already at our disposal; and, secondly, I shall propose methods by which, I think, Volunteers may more easily attain efficiency than by such roads as are now open to them.

The mobilisation of a brigade or an army means, of course, the operations by which you give it mobility and readiness for the field. It does not take an infantry soldier long to put on his uniform, pack his kit, get his rifle, and fill his pouches with ammunition. But when the individual soldier has done all this and has taken his place in the ranks of his battalion a good deal remains to be done before that battalion is fit to take the field. Food has to be drawn and the means of cooking it; intrenching tools are required, tents and other articles of camp equipment are necessary, and also reserve ammunition. The means of carrying all these articles when on the march must be provided. The responsibility for the *supply and issue* of all[1] these requirements does *not* rest with the battalion. On the other hand, the *means of carrying them*—in other words, regimental transport—it is now the duty of the battalion to provide. A scale of regimental transport has been laid down according to the actual numbers of a battalion. For each company of the unit one and a half wagons are required—that is, one wagon and one cart for one company or three wagons for two companies. In addition, one wagon

[1] Under instructions recently issued some of these articles are to be purchased locally on mobilisation by the unit concerned, and preliminary arrangements made in time of peace, are necessary.

for regimental staff. Great latitude is allowed in the nature of the wagons. All that is required is that they shall be suitable to the purpose, shall be drawn by two horses, and shall be capable of carrying a load of 30 cwt. There are to be two drivers to each pair of horses, and these men are to be *efficient Volunteers*, but supernumerary to the establishment of the corps.

There can be no doubt that this transport should be organised beforehand, and the sooner the better. To say that any amount of transport can be obtained when the emergency arises is not sufficient. In the first place, the collection of such transport means delay when speed is of the first importance. In the second place, the drivers would be civilians subject to no military control and without any knowledge of packing military wagons, of marching in military formation, or of camp life. Some portions of the transport, and, if possible, all the drivers should go into camp annually with the battalion to be instructed in these duties.

Instructions have recently been issued as to what is to be carried in a wagon and how it is to be issued or purchased. Apparently no provision is made for any special cart or wagon for the regimental ammunition reserve, nor do I think it necessary. It would, however, be desirable that such reserve should be divided between at least two carts or wagons, both for the purpose of maintaining a continuous supply between the brigade ammunition reserve and the battalion reserve, and in case any portion of a battalion should be detached. This, and the means of carrying ammunition from the battalion reserve to the men's pouches, would be a matter for regimental arrangement, but should not be overlooked.

The supply of reserve ammunition to the firing line has recently proved itself a matter of such great difficulty that every means should be adopted to enable men to go into action with the largest possible number of rounds that can be carried. This difficulty is, of course, less marked in the case of troops acting on the defensive.

The entraining of troops and their transport is also a matter which affects the question of mobilisation and rapidity of assembly. The railway facilities are, however, in most parts of England so great, and the staff of our great lines so efficient, that this might safely be left in the hands of the railway officials. All that would be necessary would be to warn them beforehand of what would be required at the different stations at which entrainment would take place.

So soon as the whole of the regimental and brigade transport has been provided and properly organised, it would be an interesting experiment to collect a brigade fully equipped for the field at its place of assembly. For this, of course, a special allocation of public money would be required.

I need not trouble you with details. I may say, however, that in the present scale for a brigade of five battalions each of eight companies—total 4,180 all ranks—71 transport wagons, with 142 horses, would be required. Fourteen trains would be necessary to convey the brigade with its transport from the place of assembly to place of concentration.

With proper organisation we should be able to leave our place of assembly on the third day of mobilisation, reaching the place of concentration early on the fourth day. I submit that this is the standard of efficiency at which we should aim.

I need say little on the subject of "mobility." So soon as adequate transport is forthcoming mobility will depend, to a large extent, on efficient staff arrangement. There are certain exercises, however, which can be practised in camp with advantage upon the satisfactory carrying out of which much of the men's comfort and efficiency on the march would depend. When only a small amount of transport is available tents can be struck, and, with other equipment, packed in wagons, camp being re-pitched on a different site. A few days' route march for a whole brigade would be very beneficial, and, I think, should form part of the brigade exercises from time to time when circumstances permit.

The question of reaching an adequate standard of efficiency in drill, musketry, and tactics undoubtedly presents some of the most difficult problems which Volunteer officers are called upon to solve.

I believe that what we should aim at, so far as the individual battalion is concerned, is a system of company training following in a modified form the practice which has now prevailed for some years in the Regular Army, and with such beneficial results. The principle on which this system rests is that non-commissioned officers and men should be instructed in peace by those who have to lead them in war—that is, by their company officers. This leads to two very important results:—1. Officers to be able to teach must first have a thorough knowledge themselves of the subjects to be taught. Most of us, no doubt, have found by experience how much we ourselves learn when we attempt to instruct others. 2. Non-commissioned officers and men look to their officers as the source of all wisdom and knowledge. They say to themselves: "These men know their business—they know what to do when the day of trial comes, and we will stick to them." On the other hand, the men are very quick to find out when an officer does *not* know his work, and although their loyalty may induce them to help him through, he must not look to them for that devotion which they will readily give to one in whom they have complete confidence.

I have attempted from time to time in my own brigade to introduce such a modified course of training. Portions of the field training as laid down in Infantry Drill are selected. The course suggested is that each unit should arrange for a course of indoor instruction for officers and N.C.O.'s during the winter and that when possible the same subjects should be illustrated by outdoor exercises carried out at the headquarters of the various detachments. In brigade camp the same exercises would be carried out in the first instance by half battalions and complete units and eventually by the brigade as a whole.

Early in the winter a memorandum is issued giving the portions of field training selected and a simple tactical problem in connection with it, to be worked out on the ground. A table is prepared indicating the

number of times each company has been thus instructed, with the numbers attending.

One of the difficulties hitherto experienced in getting this method of instruction carried out is the present system of inspection, which is not necessarily based on any systematic instruction which may have been carried on in a brigade either in or out of camp. It is hoped the difficulty may be got over this year to some extent as the G.O.C. North-Eastern District has directed that these reports on company training are to be produced at the annual inspection and that inspecting officers are to take note of the manner and success with which company officers have instructed their men. This is, after all, merely the system of testing the efficiency of company training in the Regular infantry (*vide* Infantry Drill, S. 218, paragraph 10).

Before, however, we can hope for any real improvement in the Volunteers by the above or any other method, we must succeed in obtaining a much higher standard of knowledge and efficiency in the officers. I do not think the great difficulties in the way are sufficiently recognised. I am inclined to think that this is especially the case among those who only have experience of Metropolitan battalions. Here you have a very large choice of officers, and you can exact a high standard of efficiency. You have a school of instruction in your midst. You can frequently get your officers, N.C.O.'s and men together without difficulty. You have the advantages afforded by this Institution, and you can also easily run across to the War Office to get anything you want. In the country all this is different. The brigade with which I am connected comprises seven battalions, scattered over considerably more than half of Yorkshire. From Sheffield and Doncaster in the south and west, to Middlesbrough in the north-east, only two battalions exist as such in complete units at headquarters. One battalion has ten different detachments. Three of these detachments are upwards of 30 miles from battalion headquarters. In some cases men have to come in seven or eight miles to attend a company drill. As a rule the men of these country detachments are physically superior to those in the towns and are better shots. Therefore we ought to make the most of them.

What we require is some systematic organisation for instructional purposes and decentralisation. The G.O.C. North-Eastern District has recently sanctioned a redistribution of the District Tactical Society with this object in view. The whole district is now sub-divided into four sub-districts. Each sub-district coincides with the area from which each of the four Volunteer Infantry Brigades is taken, and the Volunteer Infantry Brigadier is the President of the sub-district Tactical Society.

The brigadier appoints the secretary, probably his brigade major. But even then sub-division is not in all cases sufficient. In the eastern sub-district local branches have been formed under local presidents and secretaries. Thus we have branches at Sheffield, Doncaster, Hull, and Scarborough. The Society itself and the local branches are not confined to the Volunteers. Militia and Yeomanry are eligible to become members,

and at stations where there are Regular officers they frequently give us their advice and assistance. The plan of instruction recommended is that during the winter the local branches make their own arrangements for lectures and small outdoor tactical exercises. These are intended to be followed by outdoor exercises on a somewhat larger scale arranged by the sub-district. These, again, lead up to, and are based upon, the headquarter tactical exercises open to the whole district and directed by the headquarter staff. The last headquarter exercise took place on the 12th and 13th April this year. I believe this system will work well, and it seems to me that under present arrangements it is the only way of getting anything done. Success mainly depends in finding an enthusiastic local branch president and an energetic and competent local secretary. The latter is usually an adjutant of Auxiliary forces. The work falls entirely on him. Volunteer officers are in nine cases out of ten busy men, and cannot give the time to initiate work of this sort. They can, however, and often do, take an active part in it when initiated and the details arranged.

This leads me to consider what can be done to give Volunteer officers greater facilities for instruction. Whatever is done should be in the direction of bringing the instruction to the Volunteer rather than the Volunteer to the instruction. A Volunteer officer values the two letters "p.s." very highly. But, to get them he must go to Wellington Barracks or to Aldershot. This in the case of many Yorkshire Volunteers is an impossibility. Nor is it quite certain that when he has been to one of these so-called schools of instruction he will be a thoroughly qualified officer. I should like to see the instruction brought nearer home and given in more homœopathic doses. It would be a great advantage if there was in each district an instructional battalion. The Volunteer officer would be attached to such a battalion for, say, a fortnight, or even a week, at a time during the winter months and learn details of drill and interior economy. In the spring or summer he would be similarly attached to the battalion at a camp of exercise and put through a course of field firing. At the conclusion of the second period he would get his "p.s." Every Volunteer officer should be required to do this during, say, his first two years' service in order to be entitled to any allowances under the Volunteer regulations. He should be entitled to pay for the period of his course with travelling allowance so soon as he received his "p.s."

In addition to this, I should like to see in each district a certain number of officers whose duty it would be to go about to give instruction both in the lecture-room and in the field to any officers of the Auxiliary forces who required it. It seems to me that the officers to do this should be the brigade majors of Volunteers, and that specially qualified officers should be selected for these appointments. Some increase of their present rate of pay would perhaps be necessary, and they would, of course, require travelling and other allowances while thus engaged. It is, I believe, well known that in some places Volunteer officers now provide themselves with instruction in tactics at their own cost. I have seen

some very excellent tactical problems which are provided in this way for the use of battalions and tactical societies by a lecturer at a well-known Army tutor's establishment. Some keen Volunteer officers in a Midland town recently obtained the services of the same gentleman as a lecturer by the payment of a considerable sum of money out of their own funds. It is not very creditable to the instructional branch of our Army that Volunteers should be dependent for assistance of this sort on a retired officer of the German Army, and that they should have to provide such assistance at their own cost. A great deal of instruction can, however, be carried out by correspondence, and for such purposes the problems alluded to are very valuable, whether they are provided by the War Office free or obtained elsewhere on payment. The success of such methods, however, depends mainly on the zeal of the adjutant of the unit.

Nevertheless, in the case of scattered country battalions much remains to be done, and can only be done in camp. It is for this reason that I should like the period in camp extended to fourteen days for all country Volunteers, and not limited to those attached to army corps. It is the only occasion on which a commanding officer of such a battalion gets all his officers and men together, and in which any systematic instruction can be carried on. Officers and men would, of course, have to be paid, but I am certain that even if the present cost of the whole force were doubled by such an arrangement it would more than double its efficiency. An inefficient Volunteer battalion is worse than useless.

There is yet another reform which I should like to see introduced, and that is, a more thorough and complete development of the Volunteer brigade organisation. It is difficult to speak with certainty on this point until it is known exactly what redistribution of brigades is to take place under Mr. Brodrick's scheme. It is not quite clear whether all the Volunteer battalions selected for army corps will be brigaded by themselves, or whether they will be associated with Regular or Militia battalions. Nor is it known at present what brigades are allotted to the local defence of London, or how those brigades are to be composed. The principle, however, which I advocate is applicable to all cases, viz., that troops should be organised and trained in peace by those who will have to lead them in war—a principle I was glad to see recognised in Mr. Brodrick's speech. So far as the Volunteers are concerned, this principle has only in a very few cases been adopted. I would make the Volunteer brigadier and his staff responsible for everything connected with his brigade, and also for the inspection of the units. Until this principle is recognised and adopted, I do not look for any great improvement in the training and efficiency of the Volunteers.

I have not touched upon the question of musketry, because it turns mainly on that of ranges and opens up a subject which in itself would require considerable space for discussion. I will merely say that until the country makes up its mind to provide adequate range accommodation within easy reach of every Volunteer detachment, the force will not reach that standard of efficiency in the use of the rifle of which they are capable and which common prudence demands.

In conclusion, I would say that I desire to express no opinion favourable to our present system of national defence. I agree with those who think that measures are required, and must before long be adopted, much more far-reaching than any which have been officially proposed to Parliament or sanctioned by the nation. Our Volunteer system is with us, and on it we must at present depend for national security. Our object should be to make the most of that system and render it as efficient as possible. A large portion of our Volunteer force is at present inefficient because inadequately trained and inefficiently officered. You can do a great deal with partially trained troops if you have highly trained officers and non-commissioned officers. When all are untrained you are simply courting disaster. At present Volunteer officers can plead want of opportunity. Let us give them the opportunity that they may become, in fact as well as in theory, the instructors and leaders of their men.

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Various recent Articles in the *Times*.

Colonel W. J. ALT, C.B. (late 22nd Middlesex V.R.):—I desire to welcome the interesting lecture we have heard this afternoon as a valuable contribution towards that most important subject which is now occupying the attention of the nation and the minds of the Government, namely, the organisation of the military and defensive forces of the country. Our thanks are greatly due to the lecturer for having put to us so clearly the possibilities of a descent upon the shores of this country, and the means which would have to be adopted to resist such an attempt. He has, I think, correctly pointed out that the brunt of defence, in the first instance, would very probably fall upon Volunteer brigades. He has, therefore, indicated to us what is necessary for the efficient organisation of those brigades, and he has laid down what to most of us is the A B C of military organisation, namely, the power to mobilise rapidly, mobility when in the field, and a sound knowledge of drill and of the tactical problems suitable to the country in which the troops will operate. I trust that these points will be given effect to in the new organisation which we are all looking forward to so earnestly, and that the Volunteer brigades will certainly be able to mobilise quickly and have mobility when in the field. I have no doubt that a well-known officer who is present will follow me on the question of transport, as he has made that subject his own special study, but I venture to suggest that there would be no difficulty in organising Volunteer brigades—any more than there has been a difficulty in organising Volunteer battalions—if the authorities would only give the Force the means of doing so. The whole secret of that, of course, is the question of money. If sufficient money is allotted to Volunteer battalions, their transport could easily be organised according to the military standard by battalion commanders. In the same way, if the necessary funds are allotted to Volunteer brigades,

whatever brigade transport is necessary can be easily organised by brigade commanders. The lecturer has also pointed out the means which are now being taken by the General Officer Commanding the North-Eastern District for the better teaching of tactical exercises to Volunteer officers, which is certainly a step in the right direction. The success of the scheme, which is now occupying the attention of Government, depends entirely upon whether the necessary number of recruits can be obtained: that is the real secret of the whole thing. We may have any amount of organisation and regulations and paper schemes, but unless we have the material to work upon, and the right sort of material, it will be an utter failure. I would further like to say that success in the utilisation of Volunteer brigades depends upon what Colonel Legard has pointed out in his lecture, and with which he summed it up, namely, the question of efficient Volunteer officers. I do not think there would be any difficulty whatever, if you first catch your officers, in making them as efficient as they should be, and, I venture to say, as efficient as any officers need be for military purposes. But I consider that it is not sufficiently recognised that the scarcity of Volunteer officers, and the difficulty of obtaining the right sort of officer will continue for a long time until the question is practically tackled. That will be the difficulty in any scheme of Army re-organisation. The lecturer alluded to the system of company training, and pointed out that all companies should be trained by the officers commanding them, and that the doing so would only be imitating that which has for some time past been the custom in the Regular Army; but I would like to remind him that from the very beginning the instruction of companies by their company officers has been the foundation of the success of the Volunteer system. In the old days of administrative battalions, in one of which I commenced my Volunteer career as an independent commander of a company, unless we had trained, and organised, and disciplined, and undertaken the entire teaching of our companies, there would not only have been no companies, but no administrative battalions. Unless the officers can be so trained as to make them responsible for the training, the discipline, the musketry, and everything, tactical and otherwise, in the working of their companies, we shall never succeed in getting reliable Volunteer battalions, and brigadiers will never get brigades that they can do anything with. Unless you have a sufficient supply of officers of the right sort, under battalion commanders, no brigadier can hope to be able to bring sufficient pressure upon them to make their battalions as efficient as they ought to be. There is a certain proportion of Volunteer officers, at present serving, which I consider second to none, and as efficient as any General could wish to have under his command: but, unfortunately, there are not enough of them. I hope the Government will be able to tackle this crucial question of getting sufficient material for their new Army organisation. There will then be no difficulty in training Volunteer battalions and brigades up to any level of efficiency that may be required to bring about the most efficient defence of these shores under any circumstances whatever. I do hope that the discussion to-day on this lecture will bring that point home, and strengthen the hands of those in authority, in taking such steps as will ensure us getting a full supply of efficient Volunteer officers. If they are obtained and the necessary funds supplied, there will be no difficulty in organising the Volunteers of the country into an effectual defensive force.

Lieut.-Colonel C. G. BROWN (4th V.B. Essex Regiment):—The lecturer has alluded to the scale of transport applicable to mobile brigades. I presume from that the East Yorkshire Brigade is a mobile brigade, and therefore it is rather disappointing when he goes on to say that "it would be an interesting experiment to collect a brigade fully equipped for the field at its place of assembly." Surely it would be a more than "interesting experiment," because a commanding officer might just as well say it would be an interesting experiment to try and see if his battalion can fall in on parade. It is an absolutely important and necessary thing to try to rehearse. There is an allusion made to the special allocation of public money towards the cost, but if the War Office letter of the 28th March, 1900, A Transport 4, still holds good, the money is provided, it is true to a

limited extent, but sufficient for the transport, for an average number of 450 per battalion; and if the battalions of that brigade are in the habit of turning out in much greater strength, I suppose the general officer commanding the district could be applied to for a further grant; and that if in the end some of the costs had to fall upon the battalions it would be a very proper application of their funds, for battalions and brigades are better employed in going through these very necessary exercises than spending a week in camp. The brigade to which I belong is not a mobile brigade but a garrison one. The brigade staff and the staff of the regiments I believe know their district thoroughly well, and keep themselves acquainted with the railway arrangements and so on. That being so, it is rather disappointing to hear these strong brigades in the north of England looking at these exercises in a visionary kind of way, and talking of them as an interesting experiment. I hope it will become looked upon as rather a more practical thing in the near future.

Captain A. S. BARHAM (19th Middlesex V.R.):—I do not propose to follow Colonel Legard in the first part of his paper, for it is immaterial to me, as an officer of Volunteers, whether the Navy is, or is not, strong enough to defend our shores. It is sufficient that our Government and their military advisers consider that the Volunteers are essential to the safety of England. With regard to the instruction of the rank and file, the axiom has been laid down—and, I think everyone here will agree with it—that the officers of Volunteers are the proper instructors for the men who serve under them. But, Sir, that entails that the officers themselves shall be efficient, and you cannot insist upon that unless the supply of candidates is in excess of the number required. That brings us to the crux of the whole question, the supply of officers; and experience has proved that it is impossible for that to be satisfactory under the present conditions. I imagine that you would pull me up if I pursued that topic much further, and that I must, for the purpose of discussion to-day, accept the conditions as they at present exist and confine myself to the best way of training men under them. I would suggest to improve the training of officers that the schools of instruction as at present constituted should be abolished, and that in their place every recruit officer should, for the first year, be attached to a special instructional corps of officer cadets, that they should be instructed in the evenings and on Saturday afternoons more or less continually throughout the year, that the instruction should commence with drill and the subjects now taught at the School of Instruction, and that they should then proceed to a modified course of musketry, and army signalling, also tactics, fortification, and the other subjects which give an officer a "(Q)" in the Army List. At the end of a year a stiff examination should be set, one identical if possible, or, if not, closely approximating to the examination set to officers of the Line, and that any officer of Volunteers who passes that examination should be given a commission ranking equally, according to date, with that of an officer in the Army. His corps should also receive a substantial capitation grant on his account. Having made efficient officers, what is the best way for them to instruct their men? We must teach our men when we can catch them. We in London have very great difficulty in doing practical field exercises. By the time we get out far enough to any open space which is not crowded with cricketers or holiday-makers it is nearly dark and time to go home again. We must, therefore, make the best use we can of the winter evenings. I personally have found it a very successful plan to arrange lectures and instruction based on diagrams and maps, always encouraging a discussion on the question. I would suggest that such efforts should be assisted by the Government providing us with maps. These should be upon a large scale, suitable for instruction in the very elements of minor tactics. They should be issued to Volunteer brigades in sets, equal in number to the battalions in that brigade, each set comprising maps of a different district from the others. The battalions could then pass them round once a year, with the result that each battalion would have fresh maps of a country not previously known to them. Undoubtedly for outdoor exercises, the camp affords the very finest opportunity that we can have; and therefore although our Metropolitan corps, or such of them as consist of neither gentlemen of means nor mechanics, have very great diffi-

culty in getting a good proportion of their strength in the summer camps, yet we must accept them as most desirable and do all that we can to encourage attendance. At the same time I am sorry that the Easter outings have been discontinued. They afforded opportunities when we could instruct a very large percentage of our total strength. They were admirable opportunities for practising route marching, which Colonel Legard laid great stress upon, and other exercises, and I fail to see why we should not have both the brigade camp for those who can attend and the Easter outings in addition. In conclusion, I respectfully submit that any scheme for the training of Volunteers should be framed by officers of Volunteers. It is probably known to many present that numerous schemes promising very well have not succeeded so well as they deserved to, because they have not taken sufficient regard of the fact that the Volunteers work under special disadvantages, that their men do not come if they do not want to, and that for making a successful scheme of instruction it is most essential to remember that the Volunteers do not live in barracks and that the colonel cannot parade his regiment by bugle call.

Major and Hon. Lieut.-Colonel OTTLEY PERRY (2nd V.B. Loyal North Lancashire Regiment):—As a Lancashire officer of Volunteers, I must say that the lecture and discussion here to-day have interested me a good deal. In my own battalion we have always striven to obtain a fairly high level of efficiency. Since I first joined, some twenty-two years ago, we have had an unwritten rule that no officer should join the corps unless he was willing to go and get his "*p.s.*" in London, either at Wellington Barracks or Chelsea, and from that time that rule has been adhered to. We have at present two officers who have qualified for the "(Q)," and other officers are now working for it. After all, as the lecturer remarked, all training except that which is obligatory for the capitation grant standard of efficiency involves considerable personal expense to the Volunteer officer. It is very expensive to obtain proper tuition in "tactics," "law," "organisation," "fortification," and so on, if you intend to pass with credit to your battalion. It is also very expensive to go abroad and watch manœuvres and obtain the necessary practical training which, for some reason or other, the Government of this country appears to grudge its Volunteer officers at home. I remember when I was at last permitted to go up for the "long course" at Hythe I had the greatest difficulty in obtaining leave. It took me ten years to get permission to attend the long course; and when I got there it appeared to be a very extraordinary thing to every officer of the Regular forces who attended there that a Volunteer officer should think it worth while to go. What was he coming for? He had neither pay nor a possible adjutancy in prospect, even if successful. The Government did not order him to come. Why then this excess of zeal? The Regular officers attending had, of course, these inducements, and I believe the Militia officers got £1 a day; but when I and one other Volunteer officer from a Lincolnshire battalion were admitted to the School, although our strictly limited travelling expenses were to be paid, no promise of any pay for our two months' hard work was offered, and finally I think 5s. a day was decided to be good enough for the Volunteers, who carried off two "extras." I hope you will not think my bringing these things forward in bad taste: but I do so in the interests of the Volunteer Force, which is so often accused of failing to attract suitable officers. On the second occasion of my passing the Auxiliary School at Aldershot, a course of collective firing was ordered by our commandant. At the close of the firing, and before they were allowed to leave the ground, a sergeant was sent round to the Volunteer officers who had fired in obedience to these orders to collect the price of the cartridges fired by them. No such demand was, I believe, made from the Militia officers. So it was apparently a case of *trop de zèle* on the part of the Volunteer officers; though, as a matter of fact, I believe it was not any more obligatory on the Militia than on the Volunteers to pass the Auxiliary School. I could mention, if I liked, a great many other instances in which a desire on the part of Volunteer officers to become useful soldiers was "wet-blanketed" in every possible way. As long as that "wet-blanketing" continues, as long as it is considered a thing barely to be tolerated that an unpaid Volunteer officer should not only contribute to the

expense of training the civilian population in the use of arms, but even desire to fit himself to lead men intelligently in the hour of national danger ; as long as unsalaried "keenness" and amateur hard work in things military, as apart from national sports, are treated with good-humoured contempt, it will remain difficult to persuade a sufficient number of men of the right stamp to officer the Volunteer forces. After making these remarks, I wish to deprecate any idea that officers of the Regular forces as a class have in my experience ever adopted a depreciatory tone towards Volunteers serving with them in camp or in garrison ; and I would here particularly mention the name of General Cameron, who commanded the "Northern" District (before it was divided into the "North-Eastern" and "North-Western" Districts), and who took his responsibilities and his duties seriously, as a soldier should do. I do not know any Volunteer who served under him who does not remember him with gratitude. He held out not only personal instruction, but also the right hand of friendship to every Volunteer officer with whom he came in contact, and he did his very best to meet them half way whenever they showed any desire to learn. I think it is due to General Cameron that I should say this publicly. I know a hundred Volunteer officers who would repeat it to-day. With regard to the lecturer's remarks as to making the attainment of the training represented by the five subjects which are included in the "(Q)" examinations easier and less expensive to the Volunteer officer, I can only thank him. I think it is the only possible means by which you can hope to educate the great body of Volunteer officers. It is very difficult for them in many cases to attend schools of instruction in London or the great military centres, and the more such schools of instruction are multiplied and improved all over Great Britain the more Volunteer officers you will have who will press forward for a genuine and useful military education ; but always provided that the qualifications of an officer when so trained shall be recognised by his employment in suitable official positions, and under the same regulations as those which apply to "Regular" officers. Again, as long as the Government hesitates to establish a sufficient number of properly equipped and suitably laid out rifle ranges, so long must you expect the great bulk of Volunteer officers to remain insufficiently trained as regards musketry. In my own corps we have spent between £7,000 and £8,000 in providing musketry ranges. We have now a very fine range passed as suitable for the Lee-Metford rifle, but until 1898 the support we received from the Government was practically nil, and the small sums now allotted as support for this indispensable object is still entirely inadequate for any except wealthy corps. During the five years that it took to lay out our own range, and subsequently double it in width for the purposes of a first-class range (it is now some two miles long) all the funds and all the work were provided for out of the pockets of the Volunteer officers of my corps and of their friends. Meanwhile, such of the general public as are content neither to "volunteer" nor to subscribe to the equipment of the Volunteers look on with toleration or amusement, fatuously wondering why the Government do not undertake and pay for the work themselves, but content to believe it is a saving to the taxpayers. In fact, the great desire, hitherto, on the part of the voters of this country has been to obtain a "cheap force," and if (in some respects) they took leave to consider it a "nasty" force, it at any rate enabled them to avoid their obligations under the Ballot Act. So ignorant, indeed, has the average citizen become, owing to his long-continued immunity from danger at *home* that the existence of his personal liability to serve under the Ballot Act is often unknown to him. Let us then thank Mr. Kruger for his timely warning. In return for the million and a half, or whatever it may be, that goes to pay the schools of instruction (to be improved in numbers and efficiency) and the Permanent Staffs (that is, the adjutants and drill sergeants) of this much-neglected force, let us have something better to show. If the country has taken a new mind on the matter, no one will welcome it more cordially than Volunteer officers. What they want is, to be socially and officially recognised, but only where their qualifications shall have been tested in fair competition with their brother officers in the Regular Forces. If the acceptance of pay is an essential to their employment, let it be so ; but where the qualifications are adequate, there should be no bar to the training or employment of

any member of the Auxiliary Forces in the National Service. I thank you very much for listening to me.[1]

T. MILLER MAGUIRE, Esq., LL.D. (late Inns of Court V.R. Corps) :—I will not detain you long. I just wish to emphasise a few remarks made in the lecture, in regard to which I am very sorry indeed there is not a larger attendance, because, certainly, at this period every person connected with the Volunteer Force should study and exert himself as much as possible, and encourage people who take trouble on his behalf, like the lecturer. I always thought it very strange that such a large body of men as these Volunteers, so ardent, and so self-denying, should be so neglected by the Government. I was a working Volunteer myself for 14 years, and from start to finish I did not get a particle of help, direct or indirect, in regard to military education from the Government. I had to put my hand in my pocket every time I wished to display my zeal. But now the Government finds that it must do one of two things : either rely on the Volunteers to be part of the first line abroad and to be a very considerable part of the army corps at home, or adopt the only alternative—some form of obligatory service. They won't take the business properly in hand. They won't do what all Europe sees is inevitable and absolutely necessary, that is, adopt some form of obligatory service forthwith, which would solve the whole questions at issue ; without this their new scheme is merely a thing of shreds and patches. As the Government is making the Volunteer Force part and parcel of our Army for service abroad, and a very considerable portion of the Army that is to resist invasion at home, the duty of the authorities as to their efficiency is no longer capable of postponement. If some such measures as are suggested by the lecturer are not adopted, we shall be fooled in the future as we have been in the past. Some gentleman spoke about the number of men. Mr. Brodrick must either get this Army by means of the enlistment of Regular soldiers and cajoling the Volunteers, or he must give up his scheme and adopt obligatory service. In these circumstances, therefore, it is perfectly clear that it is utterly ridiculous to have large masses of men with muskets, or, worse, with swords, continuing to soldier in ignorance of the military art, and it is all the more absurd seeing that this Volunteer Force is to be the sheet-anchor of the nation as against invasion, in fact, the main resource of the nation. To say that the Government cannot send out proper instructors to teach these men the art of war, and that they continue to go on groping in the dark, and begging to be allowed to spend money on military training, is to charge the War Office with being the quintessence of incapacity. I happen to know, I think, some of the lecturers, English and German, to whom the lecturer referred, who go about for a consideration, or gratuitously, sometimes "in the centre of England," and in other places, giving lectures to Volunteers. Why does not the Government take up some men like these and make it worth their while to go about the country helping Volunteers in camps, drawing up schemes, and doing what the lecturers referred to have done with the Nottingham, the Inns of Court Volunteers, and elsewhere ? I should say it would be money well spent. When the war broke out in South Africa, what happened with regard to the medical officers of the Army ? The Government had to put its hands in its pockets and pay expert surgeons ; and it would have been a very good job if they had paid expert physicians also to go and supervise and report on arrangements, when it was almost too late. Why does not the Govern-

[1] I should like to add that a short time ago the War Office allowed Volunteer officers who passed the prescribed examinations, to receive a very small capitation grant of about 30s. for signalling. When that allowance was first offered, six of my brother officers, besides several N.C.O.'s, qualified at once. On finding that so many came forward to qualify, the War Office decided that that would never do, and limited the grant to two officers per battalion in order to save a few shillings resulting from our successful response. The number of N.C.O.'s and men was also strictly limited, so that the enthusiasm for signalling was regularly blanketed in my battalion. I mention that as another instance where useful work was deliberately discouraged by what I must consider a mistaken economy.—O. P.

ment get expert tacticians, and teach the forces tactics, before it is too late, in England? It is too late to begin these studies after war has broken out, and it will be too late to study these things after an invasion. Instead of doing this, the Government absolutely discourages the study of tactics by every possible means, in fact to such an extent that it has left the subject out of the programme of Militia officers, in spite of the indignant protests of all concerned. There is not a single Militia officer in England studying tactics, there is not a single young candidate for the Army, through the Militia, who is allowed to put tactics in his course. When officers were recently gazetted direct from the Militia into the Line, the majority of them did not understand the very meaning of the word tactics before they went to the front. Many of them went to the war who had never heard a single word about tactics in their life, and this is supposed to be a business nation! Now, with regard to another subject. Amateur work is generally bad as compared with regular and methodical work, but this war has taught us things which have often been learnt in previous epochs of history—the value of free corps (all of which you can see described in Chareton and Davidoff in various periods of history) always so efficient and dangerous to invaders. The Volunteers are admirably adapted for the purpose of partisan warfare. If you could get 20 or 30 partida chiefs in England of the ability of Botha or De Wet, or Dornberg or Davidoff, or the leaders of the Cossacks, and if they had some small free corps, say of 500 mounted infantry, and two or four field or quick-firing guns, and 1,000 infantry and so on, and if they were put in different portions of the country—of course in their own country they would not require regular bases—by a continual series of harassing raids it would be utterly impossible for any invader to advance into the country with enormous detachments on their lines of communications. They would be the cheapest assistance the Regulars could possibly get. Read the raids in the American Civil War. All you have to do is to fortify good positions. And if this plan also is carried out, the invader will be very glad to get home again. Again, an invader will have to have three times the force before he can invade the country as compared with the time of Napoleon. If we had the present weapons, and Napoleon proposed to invade England, he would have to bring three to one as compared with the year 1804. I think every gentleman will agree with that. The value of the defence of modern arms as against the offensive with modern arms has gone up from one to three in the last few years. If I am not wearying you, I should like to point out one thing more. The lecturer has struck the very key-note of strategy in regard to preventing invasion, in the first part of his lecture. I am not going to discuss whether there could be an invasion at all without absolute command of the sea. Let us assume that an enemy is going to invade us. Nothing could be more disastrous than to try to resist an invader by massing men in front of him. You must get on his flank. The Russians had some 150,000 men across the Danube in June, 1877. Osman Pasha moved from Widdin to Plevna, and at once the whole scheme of invasion fell to pieces. There was an article in this month's JOURNAL of the United Service Institution, translated from a Russian officer's work, in which he pointed out that the flank position at Pishin, looking in the direction of the line of invasion towards Herat, would be a thorn in the side of the Russians, rendering any invasion of India through Afghanistan a very trying task. I thank you for listening to me for so long. I should like to speak in favour of the Volunteers, for I have been long delighted with the energy and self-sacrifice of the Force. I hope the lecturer and other speakers will keep on agitating until the Government makes them as efficient as they can be, even at the cost, if need be, of a million or so more for a few years. As Lord Chatham said, "In military matters expense betimes is the true economy."

Colonel J. STURMY CAVE (1st V.B. Hants Regiment):—We have to thank Dr. Maguire because he has lifted us somewhat out of details into general principles. I will try in that respect to follow his example. With the multitude of suggestions which the Brigadier-General has placed before us in this paper I think we are certainly very much in accord, at any rate with his general principles, that what we want is power to mobilise rapidly, mobility when in the field, and a sound knowledge of drill and of the simpler tactical problems suitable to the country in which the Volunteers will

operate. But I should like to take a little exception to what seems to me to be an underlying principle. I must candidly confess I do not like the sketch which I see upon the screen for the defence of London—a sort of conic section decorated with the letters from A to H: in other words, if we are to strive, as I hope we all shall, at this increased efficiency, which is to be brought about by study and organisation, I hope it will not be for the purpose of occupying defensive positions, but for the purpose of constituting a field army that can strike at any time and at any place, which may be the most advantageous to ourselves and the most disadvantageous to our enemy. I would venture to point out that even if all the brigades were brought to that state of efficiency which the Brigadier-General rightly puts before our eyes, if they still remain merely the 33 brigades that are now down in the Army List, with many scores of isolated batteries and a great many squadrons of Imperial Yeomanry, it will be absolutely impossible for any one mind, or any ten minds, to direct that whole force in conjunction: and it is necessary, if we are to be efficient for the purpose for which we exist, that the organisation shall go on beyond the mere brigade. We must have have mobile units of the three arms. I do not care whether you call them divisions or army corps, or whether you invent a fresh name for the grouping of regiments and details into the larger units, but the organisation into much larger units we must have, not only for the purpose of commanding the force in the field, but for the purpose of training it in time of peace. All these suggested improvements could be, and would be, brought about if there was a proper sequence of control and responsibility from the section leader up to the Commander-in-Chief. At present we have in some instances, both in the Regulars and in the Auxiliary forces, efficient battalions, because they have efficient commanding officers who have complete control and knowledge of the company officers under them, and the company officers have a knowledge of their section leaders, and down from the one to the other they take care that the whole of the organisation is efficient. Where we have an efficient commanding officer there we have efficient men: where he is inefficient the unit is inefficient. But beyond and above the commander of the unit there is no proper sequence of authority, hence the fact that too many of the commanding officers are inefficient. I feel perfectly certain that the Brigadier-General will himself tell us that he cannot, owing to the state of the regulations and lack of real organisation, exercise that same influence over his commanding officers that the commanding officers can over the officers under them, and, if I may venture to say so, the brigadier-generals themselves have absolutely nobody in the position to exercise the authority over them that is really required for their efficiency. Had we a proper sequence of authority, and the Commander in-Chief should be able to select efficient officers to command the larger units—I must call them army corps for want of a better word—the corps commander would in his turn be responsible for the selection and efficiency of his divisional generals, these officers would be in the same position in respect to the brigadiers, and thus we should get a proper sequence of authority and chain of responsibility. Efficiency comes about really by the influence exercised by men, and not by written regulations. Many regulations which we get irritate the efficient commanding officer by imposing upon him all sorts of conditions which he has to fulfil and to make his men fulfil which really will not render his force any more efficient. It is also perfectly certain these regulations will never make the inefficient commander efficient. Volunteers, like the Regulars, are capable of making an efficient Army, but it must be done by men—it cannot be done by regulation. When the organisation is such that the Commander-in-Chief can ensure many capable corps commanders, and the corps commanders that they have able divisional generals, the divisional generals in their turn can ensure efficient brigadiers, and brigadiers have the same power and responsibility over the commanding officers of battalions and batteries that the latter have over their regimental subordinates. Then, and not until then, shall we have an efficient field army.

Colonel the Earl of WEMYSS, A.D.C.:—I have only two words to say. When I received the card announcing the lecture to-day I noticed that its heading was "National Defence." National defence has been the subject which has lain heavily on my soul

for something like half a century, and I do not think there is anything in the present state of things which leads one to consider it is much more satisfactory than it was half a century ago. I have listened with much attention and interest to the lecture of the gallant Colonel. All that he says about the organisation of the Volunteers is perfectly sound, and in any sound scheme of national defence would have to be considered and acted upon. But when he went into the question of invasion and pointed out, tactically, how invasion could take place, I differ from him. It is the duty of the Government—I do not say this Government more than any other Government that has been in office for the last fifty years—it is their duty to the nation that no one nation, or combination of nations, putting the Navy out of sight, should dream of landing a hostile foe upon these shores. That I am perfectly certain of. There is in this nation the means of organising such a defensive force that no nation, or combination of nations, would dream of attempting to make a hostile landing. That brings me really to what I rose to say in regard to the concluding paragraph of the lecture, where Colonel Legard says :—"In conclusion, I would say that I desire to express no opinion favourable to our present system of national defence." It would be very odd if he could. Then he continues :—"I agree with those who think that measures are required, and must before long be adopted, more far-reaching than any which have been officially proposed to Parliament or sanctioned by the nation." I also feel that very strongly. This is not the occasion or the place perhaps to offer opinions upon the measures of the Government, but it seems to me that they are a realisation of the words of an old Scotch song, "Building Castles in the Air"—building castles without any foundation, for the first foundation is to have sufficient men, and there is nothing in the plan given us by the Government which creates that foundation. I wish to simply state this, and this is what I came here to-day to say, that after the Whitsun recess I propose to move words to this effect in the House of Lords :—"That no scheme on the Army organisation can be looked upon as satisfactory or sufficient which does not rest upon a Militia Force, always kept up to its established strength and so raised that it does not interfere, as it now does, with the recruiting for the Regular Army." I shall be very much surprised if any member of this Institution is prepared to get up and deny the soundness and the truth of that proposition. If no one does, I can go to the House of Lords and say my statement had generally, at any rate, the approval of the members of the Institution who were present at this discussion.

Major E. B. CRAKE (late Rifle Brigade) :—I think thanks are due from all country Volunteer battalions to the lecturer for the remark he has made in his lecture as to the extreme difficulty of country battalions in getting their battalions in an efficient and a good state. I think we must all feel that the work they can do is not to be compared in any way to what can be done by London battalions or battalions that are situated in garrison towns. I am sure the commanding officers of country Volunteer Militia battalions will say that greater advantages should be given to them, in fact other regulations should be given them so that they could get their battalions into that efficient and good state which they should be in. Let me consider the case of officers and non-commissioned officers attempting to go through a course of instruction at any of these schools. It is not to be expected that anyone in the country can give up his employment or give up his daily wages to go to the nearest centre where the course of instruction is going on. Instead of great facilities being given, to my mind great difficulties always stand in the way. The School of Military Engineering is practically closed to Volunteer infantry. Why it should be I cannot say. I remember one particular case. Last year, a Volunteer infantry brigade applied to have the services of a Royal Engineer Instructor during their 28 days camp, and they were practically told by the C.R.E. of the Engineers that infantry should mind their own job. That is a case where I think the example of the war may well come in. Take the case of a signalling class where applicants have to guarantee to attend three days in the week in a 91 days' course. It is absolutely impossible for men of a country Volunteer battalion to avail themselves of that course. It comes to this, that unless officers and non-commissioned officers are given pay and

allowances and travelling expenses they cannot make themselves efficient in this branch of their learning. Without going into the difficulties of training isolated companies, I agree with the lecturer that the country battalions, the country mouse, should go into training for certainly a fortnight's time, while their more favoured brother, the town mouse, might perhaps go also if necessary for one week down to the seaside. Several commanding officers have expressed their great disappointment that they have to revert to the one week of training. It would be the greatest advantage to these battalions if they were allowed one week's marching before arriving at their camp. They would then be able to test the efficiency of their transport, and they would be able to instruct the members of their corps in the instruction they require—marching, outpost duty, reconnaissance, and camp duties. I agree entirely with the lecturer, that tactical subjects and tactical exercises are important, but you must first instruct your Volunteer officer sufficiently to be able to instruct his men.

Colonel H. H. STEWART (late Donegal Artillery, S. Division R.A.):—The last speaker has made an observation recommending that the period in camp should be extended to 14 days. I should like to ask the lecturer if he thinks that full advantage has been taken on most occasions, of even the 7 days, which I believe is the period Volunteers go into camp. The reason I ask that question is this. I have observed corps of Volunteers coming into camp, and I thought the first day or two of the week was spent in arriving, and a considerable portion of the second half was spent in getting away. During the two or three days they were all in camp and in spite of a supreme effort for the General inspecting, I yet observed that there were fully one-third of the men out of the ranks criticising the manœuvres of the other two-thirds of their comrades who were in the ranks. The lecturer also says that an inefficient Volunteer battalion is worse than useless. I am not quite sure that he is wholly accurate there, because, as a previous speaker has said, the great thing is "to catch your hare." In an inefficient battalion you have "the hare" (the men), and that is the first desideratum. When a battalion is inefficient, I respectfully submit that it is generally the result of an inefficient commanding officer. There have been many battalions of the Regular Army in an inefficient state solely owing to the commanding officer; but when he was changed and an efficient man introduced there was very quickly a change of affairs and the inefficient battalions became efficient. We have also heard this afternoon a great deal about the difficulties of obtaining Volunteer officers and also in getting them to attain to a higher pitch of instruction. The only surprise to me is that the War Office can get any Volunteer officers at all or that they trouble themselves to go in for military education: in the first place—and not only is this to be said of the Volunteers, but also of the Militia and the Yeomanry—they have no representative on the Head Quarters Staff of the Army. The Auxiliary forces of 500,000 men, are wholly unrepresented on the permanent administrative Head Quarters Staff by their own officers. There is nothing new in that. I have myself publicly discussed that and cognate matters in the Press, on the platform, and officially for years, but without result: but I think the days are coming, and quickly, when matters will be rectified. Already notice has been given in the House by a Member of Parliament as regards the Yeomanry. I have also been myself in communication with several Members of Parliament regarding the Militia; but that is not all. The Militia, the Yeomanry, and the Volunteers are absolutely without effective Army rank. That may be a surprise to some here; still it is the fact.[1] You have only to look at the public

[1] A memorandum, rather involved in its composition, appeared in the *London Gazette* of 21st May (four days after this discussion) on this matter so far as it refers to the Militia only. It will be observed, however, that the question of Army rank is left practically where it was, namely, there is none of an effective, permanent, and general character. Why should not the officers of the Auxiliary Forces have permanent Army rank, according to the relative precedence of these forces, and in their respective ranks, along with, but *after*, the officers of Regulars? This question is all the more pertinent at the present time when nearly one-half of the Army in the field in South Africa is composed of Auxiliaries—Home and Colonial. Could we have kept the field without their aid? Why should the officers of these Forces be denied their proper Army rank?—H. H. S.

papers day after day and see these officers gazetted, not by scores but by hundreds, and to what? Gazetted, if you please—to go out to fight the enemy—to *temporary*[1] rank in the Army! They have not had any effective Army rank before! Again, officers retired from the Army are brigade majors of Volunteers; but why are not the brigade majors appointed from the Volunteers themselves, at any rate a proportion of them? Volunteer officers have no inducement offered,[2] as regards emoluments, in acquiring a higher knowledge of their duties. I hope very much that steps will be taken in Parliament, so that the Militia, the Yeomanry, and the Volunteer Forces shall be properly represented on the Head Quarters Staff of the Army, by officers of their own.[3]

Colonel H. B. PATTON, C.B. (Commanding Severn Volunteer Infantry Brigade):—I cannot refrain from expressing the opinion that we are all very deeply indebted to the gallant Brigadier-General commanding the East Yorkshire Brigade for having read his very valuable paper to us this afternoon. It shows, I think, above all things, that we possess, in the Volunteer Forces, officers who devote a vast deal of time and attention to military matters, and who, by their ability and energy, lead Volunteers in the right direction, terminating in a discussion in this theatre, which must to a certain extent reach the minds of most of our countrymen throughout Great Britain. He has divided his lecture into various parts. I will not attempt to follow him through them, for there is neither time nor opportunity for it now. With regard to the strategical aspect of the question of the attack and defence of London, he says, speaking of the fleet:—"Practically many of us, I fear, rely upon our fleet to render an invasion of England impossible. Whether or not our fleet is able to perform this task I am not competent to discuss." I think this is a most vital question for us. There is no man living who places greater reliance in our magnificent Navy than I do, or who is prouder of it in every respect; but, taking into consideration the enormous duties that are thrown upon our Navy, I think that if we in this country do not insist upon men being trained in the use of arms, so that we can free our Navy to follow up what the admirals most desire, a thoroughly offensive strategy, then if we men of England are unwilling to do our duty, the downfall of our country ought to be the result. But so far as the Volunteer force in any way militating against the opinion that it is necessary to have a powerful Navy, we must realise that the Navy should be free to crush the enemy's fleets and guard the food supply of the people. We must have sufficient food brought into this country, or the result in the end must be that we shall be conquered. The Brigadier-General, following on with regard to the defence of the United Kingdom, touched upon the cyclists. I am one of those who from the very first moment that cyclists became a force in this country, have entertained the very highest opinion of them. At first they were laughed at. I can recollect when they were armed with revolvers and other weapons, which were not in any way suitable or useful; but now that cyclists have been to a great extent increased and have been formed into battalions and companies, I consider that that is only the thin edge of the wedge, and that a very much larger force of cyclists should be formed. They could be made so efficient by careful training that, in conjunction with the Yeomanry (now about to be turned into mounted infantry), they would make a splendid force, which could work round the flanks of the invader and make his advance almost impossible.

[1] Also with the variant of *local* rank! All this is the more remarkable because these officers, at all events of the Militia, are *permanently* subject to military law as defined by the Annual Army Act.—H. H. S.

[2] I was pleased to find subsequently that three of these appointments are now held by Volunteer officers; there are 34 Volunteer infantry brigades and the post of brigade major is vacant in more than half of them. Furthermore, surely a proportion of the adjutancies of the Auxiliary Forces might with great advantage be given to their own officers; this would arouse a healthy feeling of emulation between the two classes of adjutant—Regulars and Auxiliaries.—H. H. S.

[3] As Deputy Adjutant-Generals under the Inspector-General of Auxiliary Forces. —H. H. S.

I believe there is a future before that force which at present is only in its infancy The Brigadier-General also said :—"To sum up then, the requirements of a Volunteer brigade would appear to be :—1. The power to mobilise rapidly. 2. Mobility when in the field. 3. A sound knowledge of drill and of the simpler tactical problems suitable to the country in which the Volunteers will operate." With regard to the power of mobilising rapidly, there is no force in this Kingdom which could be mobilised more rapidly than Volunteers, for this simple reason : everybody knows where the Volunteers live, and a postcard or a letter finds him in a moment. It is all a matter of organisation. This is a matter of vital interest for military purposes : but unless it is thoroughly organised and thought out it must fail when it is put to the test. It seems to me that with regard to this power to mobilise rapidly there is no difficulty whatever about it. It could be worked out to the point of a pin : and on the order to mobilise reaching the headquarters of the various corps and brigades throughout the United Kingdom, almost before you could wake up in the morning you would find the towns all over the country flooded with Volunteers coming in with all their transport, etc., complete. They could then be sent on to join the field army, and to take their place in the defence of the country wherever they might be required. The question of mobility is a question of transport. A great deal has been said about transport, and some officers have advocated going to the expense of purchasing a large number of wagons in order that they might accompany their battalions and brigades whenever they go to the field. I myself have no wish to see the country put to an expense which I consider is absolutely unnecessary. By dint of proper organisation the supply and transport officer of a Volunteer brigade should have in his possession a list of every suitable wagon, cart and horse, and the number that are necessary in order to mobilise at a moment's notice. Contracts should be entered into with the various owners of the carts, wagons, and horses so that on the word "mobilise" their arrangements are made and they simply have to take these horses, carriages, carts and wagons off to the headquarters of the company. Again, I think that transport should take more after the fashion of the Army Service Corps. We have in our Volunteer battalions so many men who have been accustomed to the charge of horses and carts which, combined with their military knowledge acquired while they have been Volunteers, would make them the best drivers. A man representing the owner of the horses should be in the wagon, with a view to feed the horses and be more or less responsible for their well-being at the end of the march. On the third question, with regard to the training of Volunteer brigades, the gallant officer has stated that in the case of scattered country battalions much remains to be done, and can be done only in camps. In that I most fully agree with him. It is absolutely necessary if possible to try and find some method of inducing the employers of labour throughout the country to allow Volunteers leave of absence so that they may attend the camps. Speaking from the experience of a great many years, I always consider myself very lucky if I get 60 per cent. of my brigade in camp. I do not certainly get more. Some battalions get more, but some get a great deal less. I have known a battalion of 1,000, or 1,100 men which only mustered 420 when in camp : but, on the other hand, I have known a battalion not over 700 strong which has mustered 650. The numbers vary, in my opinion, according to the original treatment they received at the hands of their first commanding officer ; also it depends upon the work on which they are employed. Camp is the best place for training Volunteers. I am glad to say that the Government have insisted this year that all Volunteers should be actually efficient before they go into camp. I quite agree that that is possible where they have rifle ranges. Then again, the lecturer says :—"I would make the Volunteer brigadier and his staff responsible for everything connected with his brigade and also for the inspection of the units. Until this principle is recognised and adopted I do not look for any great improvement in the training and efficiency of the Volunteers." There I am entirely at one with the gallant officer. I consider the officer should be a Volunteer officer or a specially selected officer with no other duties to perform. It should be his sole business that his brigade should be entirely trained and

led by him, and that he should not be allowed to lead it *unless he is a thoroughly efficient and good all-round soldier.* I think we must all be proud of the fact that our Volunteer forces have come to the front during this last campaign. I am sure there are many here who must have felt absolutely proud of the fact that so many of our men who were not soldiers, but Volunteers, left their homes and employment to come forward in the service of the country. In almost every case the commanding officers in South Africa of Regular regiments have spoken most highly of these Volunteers who were attached to their forces. I saw the Somerset men arrive at Taunton a few days ago. I know something about soldiers; I have been a soldier in various branches of the Service for half a century, and I do not hesitate to say that anyone who looked those 80 men in the face, averaging about 26 years of age, and noticed the smart way in which they handled their arms, must have been proud of the Volunteer forces which had come to the aid of the country and which had done so much good duty. I am one of those who believe that not only these men who went to South Africa, but the whole of the Force would do the same in the event of their being required at home. I wish to thank the gallant Brigadier-General very much for the able lecture he has given us, and you, ladies and gentlemen, for the kind way in which you have listened to my humble remarks.

Colonel H. B. PATTON, C.B. :—I must apologise for some of my remarks. I find I made a mistake with regard to the drivers of the transport. I withdraw my remarks under that head.

Colonel LEGARD, in reply, said :—I thought Colonel Patton must have made a mistake about the drivers, because the drivers are all Volunteers, and the system he advocates has been approved by the War Office. So very few officers have said anything at all calling in question my suggestions, that I have very little to answer; but I think it is my duty to thank you for the kind way in which you have received the lecture. Perhaps there are one or two points I may be allowed to clear up. Colonel Alt referred to the allowance being insufficient for transport under the present regulations. I think that is so in towns, but in the country districts you may get transport at the present allowance. He also took exception to something I said about Volunteer officers not being efficient. Of course I do not make a sweeping assertion that all Volunteer officers are inefficient. I said in my lecture that in some cases they are, and that it is not always the fault of the Volunteer officers, but because they are not given the opportunity for making themselves efficient. There are some battalions where all the officers are efficient. It is in those places where officers have greater opportunities of qualifying themselves than they have elsewhere. Colonel Cave said something about his objection to occupying defensive positions. I must not be understood to defend the War Office scheme for the defence of London. I was trying to illustrate what I believe the scheme to be as it exists. I am quite willing to adopt the vigorous offensive on all possible occasions. I also agree with him as to the great desirability of establishing a thoroughly effective chain of responsibility, from the general officer commanding the district, through the brigadier, and so on to the colonels commanding units. I do think that is one direction in which we may look for a very considerable improvement. Colonel Stewart asked me a question as to whether Volunteers made use of the whole of the seven days which they are supposed to put in in camp. I can only assure him that my own experience is that when they do go into camp they make the most of their time. I quite admit that it would be very much better if you could get a great many more Volunteers into camp, and that they should go into camp for a fixed period. That difficulty has been got over to some extent by the most recent Army Orders. In the case of my own brigade last year, during an emergency camp, over 70 per cent. of the brigade were in camp for the whole 14 days, and over 30 per cent. for 28 days, so that at any rate we made the most of our opportunities last year. Dr. Maguire has gone, but I should like to acknowledge that he was perfectly right in his remarks with regard to the military lecturer I mentioned, with whom he is very well acquainted. I should like also to have acknowledged the

very great service which I think has been conferred upon those Volunteer officers who have availed themselves of the most valuable tactical instruction which this officer has placed at their disposal. I should very much like to see more officers of that calibre going about the country and giving their services for the benefit of Volunteers. Lord Wemyss noticed the last paragraph in my lecture. It would open up rather a large field if I attempted to go into the question now, but I would only assure him for my own part that I am most thoroughly in sympathy with him, and I believe all Militia and Volunteer officers are, in the way he has upheld the flag of the Militia. I do really believe that the backbone of our defensive force is the Militia, and I should like to see a great deal more made of it than there is at present. I should like to double the Militia, making it more efficient, and making at least half of it available for foreign service. At the same time, I should like to improve the efficiency of the Volunteers, looking upon them solely as a home force for the defence of these islands. It is in that direction in which I hope some day we may be allowed to move. I also desire to express my own feeling in agreement with Lord Wemyss and also with Dr. Maguire, who has given expression to the opinion that it is the duty of every man to place his services, at some period of his life at the disposal of the country for the defence of the country. I cannot myself see any possible objection to that principle being recognised, and I believe if that obligation was recognised it would get over a great many of the difficulties in training our defensive forces with which we are at present confronted.

The CHAIRMAN (Lieut.-General Lord William Seymour) :—It is late, so I will not keep you long. I will not give you any summary, as that has been done by the lecturer in replying to the points of discussion, so that it would be only supererogation on my part. I am glad to meet here so many officers of the Volunteer force with whom I have been associated for more than 40 years, since, in fact, the Volunteer movement began. Although our numbers here have been limited to-day, they have been like the nigger boy who presented himself for enlistment and was told that he was too small : "Very small, massa, but very fat." When we remember that the gentlemen who have spoken were, with hardly an exception, superior officers in, or formerly in, the Volunteers, this meeting, small as it is, should have an astonishing effect on the Secretary of State for War, who has expressed the feeling that outside the War Office there is almost as good advice to be obtained as in the charmed circle within. I think you will remember that only last night he said that in response he had already received coal-scuttles full of letters and even confidential post-cards which he had not yet had time to read, but I do trust that if he ever does read the proceedings of the United Service Institution he will make a point of doing so after what we have heard to-day. The lecturer has laid stress on London as the principal of an enemy's objective ; but I venture to say that his proposals point to an organisation that would probably be available for any part of the United Kingdom. The matter is now drawn down into a proposal that instead of constituting a number of standing army corps, the local Volunteer force should be in so mobile a state as to be able to move to any part of the United Kingdom that might be threatened, for which the transport and general arrangements have been touched upon in detail by different speakers. We have heard one or two commanding officers of regiments who have made transport a reality. I understand that that £450 grant is still allowed to regiments. If I remember rightly, it was initiated by Colonel Cave's regiment. If the sum is still too small, that will no doubt be considered when Mr. Brodrick matures his scheme. If these can be properly organised for the several army corps in which Volunteers and Militia constitute so large a part, the celebrated boast of the French marshal as to the last boot-lace will be justified, and the country would feel more satisfied. With regard to officers, the tactical societies have no doubt rendered most excellent service. I have just come from Canada, where endeavours have been made to produce equally good results. I have no doubt that in time they will be as useful in North America as they have been here. The suggestion of having well-qualified officers in each district to lay down schemes, give lectures, and take an interest in the instruction, will no doubt form part

in this scheme. I cannot touch upon the very difficult question of the Volunteer brigadier as separated from the regimental district commanding officer; that is an uncommonly hard nut to crack; but up to the present time it has been carried out to my knowledge in a way which has reflected credit on both the givers and the takers. I cannot close these remarks without drawing attention to a Bill on the question of the education of officers which is now before the House of Lords, and which has passed its second reading, but has not got into committee, namely, the "Military Instruction for Schools and Cadets," which, if passed, would undoubtedly create a military feeling in all schools, and would prevent the difficulty there is now found in the preliminary parts of military training of adults. It has been suggested by Dr. Warre, the Head Master of Eton, that if passed it might be the commencement of a large military education system forming a valuable source of supply of officers and N.C.O.'s for the Forces of the Crown. I now have to ask you to give your thanks to the lecturer, and to say that of all lectures and discussions which I have heard in this Institution or in the old building, none have been kept to the point by the speakers themselves better than to-day.

THE NATIVE QUESTION IN SOUTH AFRICA.

By the Hon. L. ZIETSMAN, Member of the Cape Legislative Assembly.

Thursday, 13th December, 1900.

Sir DAVID TENNANT, K.C.M.G., Agent-General for Cape Colony, in the Chair.

The CHAIRMAN :—Mr. Zietsman is a Member of the Colonial Legislature, the House of Assembly at the Cape of Good Hope, and he represents one of the largest native constituencies, a constituency of great importance and influence. I am sure we are all very pleased to hear what he has to say on the subject of the native question. It is a question of vast importance, and one which will control the future destiny of South Africa to an extent far larger than anyone can anticipate. The native element is so far in excess of the white population that it is a subject worth considering, and will be very prominently before our attention in the future.

LECTURE.

WHEN I had the pleasure of meeting one of your members, Captain Gambier, and acquainting him with the fact that I had the honour of being one of a deputation sent over to this country from the people in South Africa to try and acquaint the English people with the true position of affairs in South Africa, he was good enough to say that I might probably have an opportunity, or rather receive the honour, of speaking to the members of this Institution. The question naturally arose as to the subject on which I should speak, as it was pointed out that this Institution is a non-political one. It was therefore somewhat difficult to select a subject which would be of sufficient importance to promote the cause which I am engaged to a certain extent in promoting, and be of sufficient interest and of a non-political character. I therefore selected the subject of the Native Question in South Africa—a question sufficiently wide to enable me to deal with a matter which does not bear, strictly speaking, upon party government, and which would not necessitate my criticising the policy of any particular statesman or governor.

Now that we are hoping the struggle in South Africa is coming to a close, and that before long our statesmen will have to consider the question of a settlement of the South African colonies in a manner which will make them a fit place for people to live in, one of the most important links to be considered in that settlement question, both from the

strategical and political point of view, is this all-absorbing question of the native races which we find in the South African Continent, and which we have now brought under our own direct control. When I tell you that with a white population of something like 2,000,000 all told, we have a native population of close on 6,000,000, you will see the magnitude of the question. The natives are not like natives in other parts of the world, but, as I shall later on explain to you, are a very different class of people to deal with. We have been trying for years to study the question of the settlement of the native races, or the particular form of government that will be best calculated to successfully govern them, for we saw that there was bound to be a storm in the future, and each one always thought, "Well, I have got enough trouble in my time, and probably my children will have to deal with this question." But now is a very fitting opportunity, since we have to take over the control of the whole of the native races in the southern portion of Africa, and consider the large question of settling other important matters, to at once go into this native question. It must be evident to all that it would be absolutely impossible to try and rule a semi-barbarous people on the same lines of administration that should be adopted for the purpose of successfully governing or promoting the interest and welfare of the European population in South Africa. We have, therefore, come face to face with a question which has been always looked upon as an undesirable method of government, both by the people and by politicians, and that is class legislation. We like to avoid the question of class legislation as much as we possibly can, but we find that the question of class legislation, though it may be considered to a certain extent objectionable, has certain features which are not only desirable, but absolutely necessary, when it comes to the matter of governing the natives. Such legislation would not be acceptable to the Europeans; and we can make laws for the government of the European population which we could not possibly introduce into native districts with any prospect of success.

It is not necessary for me to go into the history, although it is a very interesting and very important one, of the native races in South Africa. I have particularly studied the question, and gone fully into it, and I have also made a study of the native character, his mode of life, his temperament, and his capabilities, for the last fifteen years; and, I must confess that though I have made it my principal study, I am yet at a loss to lay down a policy with any definite assurance that it would be successful in governing the natives. When the first white people went to South Africa they found two distinct types of natives: the one known as the olive-coloured races, viz., the Bushmen, the Hottentots, the Namaquas, and a few other smaller tribes, who are quite distinct from the Bantu races, the darker people. It is evident that these two peoples, if they are of a common origin, must have lived apart for very many centuries; in fact, it is hardly possible to conceive the necessary period which must have elapsed from the time that they separated which could have sufficed to bring about such a different type and such a different condition of things. The olive-coloured races are of course much lighter-coloured people, and

people entirely different in physique, in intellect, in character, in tastes, and in habit from the Bantu races. They are people who adopt civilised habits very readily, and mix readily with any tribe or any people they come in contact with, and yet are people whose intellect is such that you can hardly carry them beyond the stage of wearing ordinary European clothes and being farm servants. Then we have the Bantu races. It is also somewhat curious that amongst these people there has been a distinct severance for a very long period. We find the Basuto races, the Zulus, the Barralongs, and the Bathlapen and several tribes, are somewhat different from the Pondos and other native tribes, and in this case there must also have been a severance between the two people for many centuries, although it is clearly proved that they are unquestionably from a common stock. We find not only that they differ much in character and in habit, but as regards their laws they differ very widely from other natives. The names they use for domestic matters have evidently been in use for many years, and it can be distinctly traced that there must have been a severance between these two peoples for a very long period.

The Basuto races are people who are probably more ready to take to civilisation and industry than any other of the native tribes except the Fingoes. These people were not a war-like race until very recently. It was only when the great Chief Moshesh got together the remnants of the different scattered Basuto tribes that he was able to establish a sort of military power among them. Previously to the chieftainship of Moshesh we find that these people were merely scattered fragments, and under the guidance of no particular chiefs. Their characteristics were such that they became more or less a prey of other stalwart tribes. There was not much industry amongst them, but, strange to say, after this very able native chief had gathered together the remnants of these people, and had constituted them into a strong tribe in Basutoland, and with his genius established forms of government both civil and military, they very soon came prominently to the front. One of the features which enabled this chief to make the best use of the material which he had at his disposal was the fact that these people were somewhat more intellectual than the rest of the native tribes; they more readily took to European methods of living and industry, and they were very easily disciplined. I will not say in this respect that they were better disciplined than other native tribes, because I shall show later on that the discipline that exists among native tribes is a thing which might very well be followed by many European races. The Basutos then became a power, which the Colonial Government had reason to take notice of. After their struggle with the Colonial Government they became such a power that it was realised they would always be some trouble, and they were handed over to the Imperial Government, under the administration of which Government they have been thriving and prospering, and have settled down to a peaceful life and a very useful and industrious one. They are people who are very variable in their development in the different industries in Cape Colony or indeed in South Africa. They readily take to work. They go to the different mines, and occupy themselves in various ways in the industria

centres of the Colony, bringing back the money which they earn to spend in a useful manner in the promotion of their own comforts, and in the forwarding of education among their own people.

Then we come to a most important question. Like some of the other native tribes, the Basutos have taken the lead in this respect, that they now have a number of educational institutions, and the people are becoming fairly educated. We have moved these people up to a certain standard of education, and after we have moved the mass of the people up to adopting a more civilised form of life, the question will arise as to whether we should continue to treat them as a semi-barbarous people and should deny them such political rights as would naturally be extended to Europeans of the same standard of civilisation. It is when we have to face this question that the real and difficult problem which we have in front of us in South Africa is seen. Fortunately, in this respect it cannot be necessary to deal with that feature of it so very soon, for the reason that if we adopt the principle that the native races in South Africa must have a uniform government and administration, it will take some time before we move up the more uncivilised of them to a status in life by which they would be in a position to claim their political privileges. When the native people as a body come forward and ask the Europeans for equal rights to be extended to people who occupy equal positions in life with others in the British Empire, then the question will have to be faced. Since we adopt the principle in Greater Britain that, irrespective of nationality, and irrespective of colour, all civilised people must have an equal political standing in the State, the time must come when we have to extend these rights to these people; and the difficulty will arise as to whether the white man should be the dominant power in the southern portion of the African Continent, or whether, by the force of numbers, political power will have to be placed in the hands of these people; and that will be a very serious thing for the white people in Africa to consider.

I think I had better say something about the military organisation of the native tribes now. The military organisation amongst the natives is very much like that among the Powers. With the exception of the Zulus, natives do not adopt the principles of drilling and disciplining certain defined regiments for the purpose of carrying on wars. The Zulu people —although you have heard more of them during the last ten or twenty years than of almost any other tribe—only came prominently to the fore at a comparatively recent period. It was not very long prior to the first conflict between the immigrant Boers and the then Zulu people that these latter came to the front. We have not been able to successfully trace whence they obtained this military spirit which is in them; but it is apparent that it had its rise at the time of Chaka, and that of his successor, the powerful Dingaan, a truculent and blood-thirsty individual, who took the advantage of the martial spirit which already existed among them. Probably it has been brought about more by the climatic conditions and the circumstances under which they lived; also by the geographical features of the country in which they lived. This tribe, as we all

know, had regular armies, and regularly drilled and disciplined soldiers. But the other native tribes follow a system very much like that of the Boers. There is the paramount chief, who is a sort of sacred individual, whose position and power are hereditary, very much like our own. The principle upon which the chiefs sit upon the throne is very similar to that found in our own country. Then there are smaller chiefs, or the chief indunas, as they call them, exercising a certain amount of influence over the tribe; and then there are smaller chiefs, still, gradually coming down to the head-men. It is very much like the Colonial system of government. The governor has ministers, who are the indunas of the chief; our magistrates, again, are the head-men; our field-cornets, again, are the smaller head-men within the different kraals or limited areas within which they exercise jurisdiction. The paramount chief holds his position from the fact that he is the son of the great wife of his predecessor. It will be somewhat interesting to note that there is almost a unanimous principle of law among the natives that the paramount chief is not necessarily the eldest son of his father, but he must be the eldest son of his mother—the queen. The wife who is to be the mother of the paramount chief, although married to the chief, and although recognised as the wife of the chief, yet occupies a distinct independent position in the tribe. You probably know that the native woman is more or less a chattel; she is the property of her husband. She is bought, and becomes a chattel to work for the husband, and her position—I am speaking of the more uncivilised section—is not much better than that of the ordinary animal. But the queen occupies an entirely different position. The natives argue that they marry very young, as a rule, and that it would be injurious to their administration, and to the interest of the tribes, that a paramount chief should have a grown-up son when he, the father, is still active, because possibly this son may turn somewhat troublesome and want to exercise too much influence over a tribe whilst his father is still alive and in a position to lead the tribe, both in warfare and in civil administration. The chief marries. It is impossible for the chief to be the father of his successor until the nation thinks that the time has arrived when there should be a successor. When the nation thinks this, they go with stock collected amongst the nation to buy a woman of rank from another tribe, and present her to the paramount chief. She is married to him, and her eldest son is to be the successor of the paramount chief. She holds a distinct position; she gets her own hut, her own kraal, her own cattle, and she exercises her power of control over these, which, of course, is a thing not allowed to ordinary women.

To come back to the question of military organisation. The discipline among the natives is something to be admired. It is astonishing to see the absolute submission and obedience on the part of the natives to the orders of their chief, especially in times of warfare. They do not ask the least question, no matter how high a place the chief may occupy. Unlike our Parliaments, they never question the authority of the paramount chief when he decides to go to war. It is a duty which devolves upon him, and they look upon it as a sacred right. As soon as

the question of a war comes before them, as soon as the war-cry is sung, they consider that the power of the chief is absolute, and that they, the common people, from the prime minister downwards, become nothing more than ordinary dogs, who have to be prepared to fly at the throat of any person the chief likes to point to. This discipline is quite complete, and it is looked upon with great reverence by the people themselves. They have no concern as to whether they are right or wrong; when they get the orders of the chief they would march into the jaws of death without questioning the why or wherefore, or the rights or wrongs of the question.

Then you will find that the principal men will take chief command of their districts. Their orders will be given to different people, the smaller chiefs and the head-men under them, and each one will call up his own section; and when the word of command is given they march forward to battle. The native is a fighting man. He will very often be prepared to enter into a fight caring very little as to which side he is fighting on. He is so disciplined that it is his second nature not to ask whether he is right or wrong, but to join in any fight as long as there are some men with sufficient power and influence who can tell that he is to fight and point out the side that he is to take. In order to break down the military system of the natives we had to set about finding the means to do it in such a way that the natives should not know, without letting them into the secret, or letting them find out exactly what we intended doing. There was no chance of stamping out the martial spirit in the natives, and there was no hope of minimising the influence of the chiefs and head-men. The only way, therefore, we could do it was to try to equalise the powers of the different paramount chiefs, and to endeavour to split up the tribes as much as possible. As we take the natives under our control we try to disintegrate the tribes by inducing or persuading one paramount chief that probably the tribe is too big for him to govern, and that some of them should be brought under the immediate control of some of his younger or inferior brothers. By that means we keep a sort of power in the hands of the younger or inferior chiefs, so as to greatly minimise the influence of the paramount chief over the whole people. Whenever we have had to establish magistrates among the natives we have always tried to so erect the boundaries that each magisterial area should either take in the whole tribe or one or two clans. Then a certain people in the divisions or districts are, to a certain extent, under the control of individuals who would be recognised by the Government, and probably get a salary from the Government, and would be responsible, to a certain extent, for the good conduct of the people.

Again, we have tried with the smaller clans to make them stronger, or, perhaps, a combination of clans, in order to make the chief of equal importance to the chief next to him in the district. By this means we have been able to equalise the power of these chiefs. The natives are very jealous of power, and no man will succeed in getting one chief to follow another in war unless he is convinced that the man he is following is either superior in rank, or a man of superior

force and capacity, a man to whom he could bow and whom he could serve. We have therefore, by this means, settled the question of the possibility of a general rising among the natives in South Africa, or at least made it somewhat remote, although I can assure you that those who know the circumstances and the people are by no means certain that the day may not come when probably we may have to face a very serious rising and a combination among the natives, for the reason that as we educate and civilise them they naturally learn the power of association. I shall deal with this matter directly. They take to education very rapidly, and probably some of these educated men may take it into their heads—it is almost certain they will—to become renowned by bringing about a combination of the native races. A large number of the paramount chiefs of the different clans are by no means subdued yet, or settled down to European rule.

Then the question arises as to the possibility of such a general rising. Among our own chiefs, as I say, there will be a jealousy. Basutoland occupies a very unique position in the southern portion of the African Continent. It is an inaccessible country, a country in which you can store provisions and keep immense armies for years to come. The Bastuos already have a great name as a fighting nation, and their chiefs have proved themselves very able generals. If the present paramount chief wished to put himself forward as a South African Mahdi, he would be able to rally round him the whole of the native population in South Africa, and he might be the means of a very serious trouble to the European settlements. Lerotodi Moshesh is not likely to do it. He is a man of very good intellect, with a certain amount of education, and he is perfectly satisfied with the rule and administration of the Imperial Government. He exercises almost complete control over the whole of the Basuto nation. He is not interfered with very much by the Imperial officers so long as he carries on a peaceable rule, probably a very wise provision too. So long as he is alive I do not think there is the slightest reason to fear that there will be a combination among the native races. But so soon as he dies there is the son who has to come to the throne after him, who is a somewhat troublesome individual. Not having gone through the mill or seen the hardship of war, as his father has seen it, when the son gets into power, and when it is borne in upon him that he can make himself a great man by leading the whole of the native tribes in South Africa, the bait will be very tempting for him, and the probabilities are that he may take it into his head to become the South African Mahdi, and we may have to face a very serious problem among the natives. It is, therefore, necessary for us not to dismiss the subject from our mind. In considering the matter from the strategical position of the country, it is impossible for us not to consider the country occupied by the native races, and the position, attitude, and characteristics of those races.

We find the natives in South Africa on the best part of the soil. The countries which they occupy can carry very much larger populations than almost all the tracts of country occupied by Europeans. The country is

thickly populated, and the natives can live on smaller areas; and by force of circumstances they have been drawn together in the south-eastern part of Cape Colony, in the greater part of Natal, in Swaziland, in the Transvaal, in Matabeleland, and Mashonaland. The principle adopted by the Cape Government has been always to try and settle lines of communication by establishing a belt of country occupied by Europeans between the natives. The trade routes and the routes to garrison the towns must all follow the same direction. We have to keep troops of a certain force in the native territories in order to keep them quiet, for police purposes. And the natives also require to see the force, because they can hardly understand a force which is hidden from their sight. We have, therefore, always established the garrison towns in main lines through the fixed part of the native territories, and used the trade routes for farmers to settle down upon around these garrison towns. Garrison towns give a certain amount of protection to the farmers and traders round about them, and the farmers and traders supply the towns with produce and the general necessaries of life. We have found this civilising agency to be one of the most powerful factors in doing away with the martial spirit among the natives. As the trader settles down he requires a certain amount of products to be drawn from the soil, and the farmer comes along and teaches the natives how to grow the stuff. The native grows it, goes to the traders' shops, and sees certain things there which he requires, gets a liking for groceries and European produce, and cultivates a taste for wearing clothes. All this means that he is gradually drawn away from his native habits into a state of civilisation; and we have found out that directly the process of civilisation settles in among the natives, they at once become less subservient to the chief, and the chief gradually loses his control over the individual.

Now, as I have said, we must consider the whole matter from a strategical point of view. The greater part of the natives are in the Transkein territories, the two large territories adjacent to Basutoland, and we are now establishing a railway system connecting the railways of Cape Colony with that of Natal—running the line of railway through the Transkein territories in the hope, in the near future, of bringing up a line from the Bay of St. John to connect with the through line; and this railway will touch a point quite close to Basutoland and one of the highest points of the Drakensberg mountains, thus enabling us to establish a line of forts or distribute troops at different points where trouble may arise, so as to quell any disturbance which may take place among the natives. There is also this probability: that some of the clans or smaller tribes may come into conflict with small European settlements in those remote districts, and that this conflict may spread from one clan to another until such time as some of the more powerful chiefs may take it up, and then it will become a source of danger in certain districts, with the probability that afterwards the Basuto chief will espouse the cause and become the leader of the native races. I will become a very serious question when we have to face probably nearly a million of good fighting men, men physically as good as our-

selves any day, and whose bravery is equal to any white man's. Men who know the country and know the particular form of fighting which will have to be carried on among them, know that they will be as good as any soldiers we can put into the field. I have, therefore, urged upon the powers that be to consider this question of the settlement of the native races contemporaneously with the settlement of the newly-annexed territories. In order to do so, we have to find a form of government that will make these people settle down and carry on their ordinary pursuits of life, promoting amongst them peace and education.

I have already told you that it would be very injudicious to try and govern the native according to our own ideas. We have tried it for years, and have failed. All these native wars we have had during the last 25 or 30 years have been mainly due to the fact that we would of course insist on trying to govern the native and make him live under laws which, although suitable for civilised people, were not suitable for him. The natives look upon such laws with suspicion. He cannot understand the constant changes; he cannot understand why he should have one chief to-day and another to-morrow; why to-day there should be a Government in power with a certain policy, and to-morrow another Government in power with a different policy. These things are most disturbing to the minds of the natives, and we have found out from experience that it would be most disastrous, when we have 6,000,000 people under our administration, to try and govern them according to those ideas.

In the Cape we have passed an Act giving the High Commissioner certain legislative authority in the native territories. The laws passed for the purpose of governing the European sections should not necessarily be law in the native territories until such time as it is extended by proclamation issued by the High Commissioner. If the proclamation is not issued, then the law is not enforced in the native territories. And if it is considered by the High Commissioner, after consulting his executive officers, that certain modifications are required in any particular law, in order to make it more suitable to the native ideas, then such alteration can be made by simple proclamation. We therefore avoid this one great difficulty, that the laws applicable to the natives, and necessary for the successful administration of the natives, are not becoming a party question in our Colonial Legislature. If we draw the natives into these party questions we shall find it will lead to endless difficulties; that certain agitators who are unscrupulous men, to gain their own political ends, will excite the natives and make use of them in a manner which must necessarily prove disastrous to their successful government. We have, therefore, brought the destiny of the native races more or less under the direction of the High Commissioner. The Colonial Parliament can of course discuss questions, and discuss the wisdom or otherwise of the native administration, and they may make certain laws which they think politic for the natives. But there is this safeguard: that as soon as it may appear that we are going at too fast a pace, or that we are making laws for party purposes which may not be desirable for the natives, the High Commissioner can step in and modify those laws. We have found

that this principle has worked most successfully among the natives. We have established, under the direction and guidance of the High Commissioner, chief magistrates in the native territories. The chief magistrates hold civil jurisdiction over the whole territory, probably consisting of 30 or 40 different magisterial areas. The magistrates are more or less diplomatic agents, having unlimited jurisdiction in their own particular district, carrying on the form of government among the natives consistent with the form of government carried on all over the different territories under the direction of the different chief magistrates. The native desires to see the existence of a visible chief. He cannot understand why he should have to be told that there is a man living some distance away who is his chief, whom he cannot approach, whom he cannot make his complaints to when he thinks his own immediate superiors have not treated him justly. He takes readily to the idea that there is a great Queen living somewhere beyond the water; but as to whether she lives in a tree or a boat he has never been able fully to realise. But they know there is a great Queen, and they sometimes think of her as a sort of invisible being, like a goddess. They can understand that, but they cannot understand why this great Queen should send indunas to govern them, whom they cannot approach and speak to when they think justice demands they should have intercourse with such an individual. By the fact of having the chief magistrates there, we give the native the privilege of first going to his own magistrate when there is trouble; and if he feels aggrieved and is not satisfied, he goes to the chief magistrate, who is his last court of appeal, a man always selected for his knowledge of law, his administrative capacities, and his judicial knowledge, who is able to deal with a native according to the native's own ideas.

We also found that some of the native criminal laws were barbarous, and should be done away with as soon as possible. We found that the native laws, especially those relating to marriage, inheritance, their rights to movable property—immovable property they never have any rights to, all the immovable property belonging to the paramount chief—were those of a settled form of government. I have heard natives quote decisions by chiefs, and precedents, to arrive at a direct conclusion in legal matters, decisions which must have been given many generations ago. They so firmly adhere to their judicial system that, no matter what we do, or how just we may consider any of our laws, the natives will submit to the judgments, but will always feel aggrieved. When you give him justice according to his own laws, you will satisfy him more than with almost any other form of administration. I would therefore strongly advise, from my knowledge of the natives, that when we take under our control all these masses of natives in South Africa we should, as much as possible, try to administer their own laws among them. We have found that with good officers administering a native law, it aids more in the successful government of those people than almost anything I know of. Their laws are not harsh. Of course they have some barbarous laws, that we have had to do away with. We cannot allow the smelling-out system and the killing of people, owing to the witch-

doctors going about informing the natives that somebody has caused somebody's death. But, so far as the civil law is concerned, it is most interesting, and founded upon the best and soundest principles, and is adhered to in a manner which is creditable to the people. A South African native has as high a sense of justice as any race in the same state of civilisation. You might take an ordinary barbarous native, and a European possessing a proportionate amount of knowledge or civilisation, and you find that the native is the man with the highest sense of justice. Once a native has done wrong, he accepts his punishment better than any man I know. It does not matter how harsh the punishment is. He may consider sometimes you have treated him too harshly for a small matter, but he recognises the principle that the punishment is merely the will of his superiors. If one man thinks a couple of cuts with the cane will be sufficient, while another chief may think half-killing him with the sjambok is essential, he may complain a little bit of the severity, but he will accept it as a deserved punishment. But if you do an injustice to a native, no matter how small, he never forgets it; he hands it down to his children, as he hands the law down to his children. They have no regular written laws; they hand them down somehow as the Romans did. When an important decision is given by a chief upon a point which has not been previously decided, this question is talked over and discussed at the different kraals, the children being called in to listen. The matter is discussed day after day and month after month, and, in an important matter, sometimes for years, until the principle is so thoroughly fixed in the minds of the children that they can never forget it. As I have tried to point out, this is a very important feature, and one that will lead more to the successful government of the native than anything I know of. There is a slight difference in the laws of the natives of the different clans, but it is so trifling that it need hardly be troubled about. The Zulus and the Basutos, for instance, the two great nations, have not such fixed principles. The leading nation, namely, the Galekas, as far as the administration of law and justice is concerned amongst the natives, is a tribe now almost extinct. They are known to be the greatest lawyers amongst the natives, and the decisions of the paramount chief of the Amakosa nation are looked upon as precedents of authority to guide all the native tribes. Therefore it would be a very wise precaution for us in administration to adopt this principle all through South Africa that there should be one High Commissioner—which I hope there will be for the whole of the British Colonies in South Africa, and that the High Commissioner should have the supreme control or administration, as far as native races are concerned, and that whilst the legislative bodies may deal with some of the principles on which the natives should be governed, the High Commissioner should always have the revising power and legislative authority to prevent anything that may probably lead to disaffection amongst the natives.

We have to consider the political position of these people. They take very much more readily to education than people think; but, curiously enough, you cannot get the native races to become mechanics;

they will not take to trades. A few of them do to a very small extent, but they become ministers, school teachers, clerks in offices, lawyers, and they are beginning to qualify as doctors. They make very good lawyers, very good clerks, and very good schoolmasters, but, strange to say, the very thing which you want they will not take to. It would have been very much better if we could have induced the natives to adopt different trades. We have started, from time to time, educational industrial schools among natives connected with the different missionary institutions, but the attempt has never met with the success we had hoped for, although they take to other callings in life much more readily than perhaps people imagine. It is when they become to a certain extent civilised that we shall have to face the difficulty as to how far we are going to admit them to the political administration of the country. If we admit them on the same principles that we admit Europeans, then, of course, there is but one result—the black man will rule South Africa. How to get over this I must confess is a problem I have not been able to solve yet, although I have given the matter a very great deal of attention. I must also say what my predecessors have said, that I have had enough trouble in my time, and my children will have to take their share. We have a large number of coloured people in the Colony who are not natives; they are admitted to the privileges of the franchise, and they have not abused them, but used them very well.

The manner in which the masses of the natives in South Africa have stood up, to a man, in support of the British flag during the present struggle is something we have every reason to be proud of. It is something that proves most conclusively that the Government which we have established amongst the people has been most successful. If we had only let them loose, I do not think there would have been a man, woman, or child amongst the Boers alive to-day. The natives got into such a state of excitement that in many cases we had to send them to the borders merely to keep them out of harm's way. "Why," they say, "we are the dogs of the great Queen; there are soldiers being shot, and here we accept the privileges under her rule, and why should we not fight? Are we cowards, or dogs that can only bark and not bite? You despise us. You make us feel we are not men. Are we going to be a set of women lying in our kraals doing nothing when the Queen's authority is in danger?" The arguments they put forward were such that we did not know how to answer them back. You could only tell them that, whatever might be the right or the wrong, it was the wish of the great Queen, and that she asked them, as her people—she being wiser than they—to keep quiet. She would settle the day when they were to be called into the struggle, but at present they were not wanted.

There are twelve headings on the slip which I have handed round, and each one would itself form a subject for a lecture. To deal with the native question is a thing that can only be done in a series of lectures, and I have been able to give you only a very short outline of the position these occupy in South Africa, and a very short outline of the main principles of the government that may be best calculated to be most

successful, and move the people up to a higher plane of civilisation, and enable them to become a useful community for the benefit of the Empire.

As I said at the outset, I was advised that it would not be judicious on my part, at this Institution, to touch upon party politics, or to criticise any particular Administration. This is somewhat disappointing to me, because you all know that I am brimful of politics, that I am one of a deputation sent over from the people of South Africa to England in order to try and more fully acquaint you with the true condition of things in that country.

I can only say, in conclusion—and I hope you will excuse me for saying so, because I shall not have an opportunity of speaking in public again, as, owing to unfortunately failing health, I am ordered back to South Africa at once—that if I ever heard of anything that pained me, it was that unjustifiable attack in your British House of Commons on one of Great Britain's greatest statesmen, that attack on Sir Alfred Milner. Representing as I do the loyal Dutch in South Africa, I can tell you most emphatically that, even among the Dutch community in that Colony, there is not a man or woman in South Africa who wishes well to the Empire who does not only fully endorse the policy of Sir Alfred Milner, but who reveres the man as a man of foresight, justice, and strength, and one of the greatest Governors that Great Britain has ever sent forth from her shores.

The CHAIRMAN (Sir David Tennant) :—If no one desires to make any remark, on your behalf I shall simply tender to Mr. Zietsman your thanks for his kindness in giving us his lecture, and for the lucidity which has pervaded the whole of his address. Let me add a few remarks. I believe Great Britain's greatness is established upon the foundation of truth, of justice, and of equity; and by the application of these high and lofty principles to the native element we may ward off or counteract to the fullest extent any danger arising amongst the native people of South Africa. It is firmness that is wanted; clemency whenever it is needed; and an endeavour to raise them gradually in the scale of civilisation. It is this alone that can cause the native element to be productive of good, and secure for us in South Africa a people ready at all times, with an enthusiasm the lecturer has just shown us, to support the Crown and ensure the stability of that portion of the Empire. There is one thing, and that is, that the natives must be treated in very many ways like children; and as we prevent a child from getting strong drink, so must we endeavour, in all our actions towards them, to prohibit the liquor trade from finding a stronghold in centres of large native populations. Nothing is so destructive of the peace and security of the Empire as the introduction amongst these millions of natives of this drink trade. We have people only too anxious to make money at the expense of the native. I am sure that if we leave, as the lecturer suggests, a very large portion of the administrative power over the natives in the hands of the High Commissioner, who in turn is influenced by public opinion at home, we may secure for the Crown everything that can tend to good order and good government; and we may be sure that the liquor trade will not find a stronghold, or even a footing, amongst the native populations of South Africa. Once more, on your behalf, I thank Mr. Zietsman, who, as you know, is a member of a highly-respected Dutch family. He himself is proud of his nationality, but still prouder that he is a British subject, an Imperialist.

T. MILLER MAGUIRE, Esq., LL.D. (late Inns of Court V.R. Corps) :—I think, Sir, a vote of thanks should be proposed to yourself for not only

presiding so ably, but for the concluding remarks, which, I noticed by the cheering, came home to the judgment of all the audience. I had the pleasure of meeting the lecturer last night, and I anticipated a treat, but certainly nothing like the treat we have received. I should be very glad indeed to come here and listen to twelve lectures, one on each head. This is perhaps one of the greatest questions in the future of South Africa, and we cannot learn too much about the past, present, or future of that country.

Surgeon-Major W. T. BLACK, Retired, in supporting the motion, said :—I think there is one part of the subject of the native question in South Africa which has not been alluded to to any extent, and that is, the missionary influence in that country. I visited a great many missionary stations over there in the old times, and I know the influence of the missionaries is exerted over the native tribes there. They have been certainly a centre of influence and of civilisation and education. They have at all times behaved in a loyal manner, and carried out their ministerial and educational duty with zeal and with success. I do not know whether the same efforts will be made to maintain them, or to patronise them in future as has been done in the past. There is evidently a great change going to take place in the government and administration of the whole of the Cape, and I dare say the missionary department, which has had such a paramount influence in former times, will be taken into consideration. In former times the missionary interest was as important as the Government itself. I saw the good they did amongst the natives, and if there is any means of continuing that good it would be for the benefit of the native tribes. Having been some time in the Cape, and seen three Kaffir wars there, I am familiar with the natives, especially with the Kaffirs and the Hottentots. As a retired military medical officer, I have had to study the medical question among the tribes. The constitution of the Kaffirs is pure and good, and they have, in consequence, an immense *mens sana in corpore sano*. In dealing with the Kaffirs, it must be taken into consideration that they are healthy men, with healthy minds, and able to reason just as well as any European. They have been uncontaminated by European civilisation, and they are not afflicted so far with the diseases of Europeans, and are completely free from the epidemic diseases of Europeans. They have not received small-pox, measles, scarlatina, or anything; and in dealing with the Kaffirs you are dealing with a pure race. The only native disease which I have seen is a tendency to scurvy, but scurvy there depends upon the insufficient and inappropriate food which they are subject to at various times of the year, according to whether the seasons are prolific or otherwise. Of course, there are the common diseases and dysentery and diarrhœa, but they are free from tuberculosis, which afflicts the Hottentots. The Hottentots have become contaminated by European influence, and they are now a degenerate race. They have tuberculosis, their infants being born with it; but the Kaffirs are perfectly free, and are a sound race in body and mind. I have no doubt the Basutos are much the same. They are a brave race, and fit for civilisation to be extended to them. In a military sense they are worthy competitors, and worthy combatants with our soldiers. The Kaffir races and all connected with them are worthy of serious consideration, and there is no doubt they have always displayed a loyalty to our Government and to our chiefs. I dare say they will continue so as long as they are treated honourably and properly.

THE CANTEEN QUESTION.

By Colonel Viscount EBRINGTON, Royal North Devon Imp. Yeo.

Thursday, 11th July, 1901.

General Sir REGINALD GIPPS, K.C.B., in the Chair.

The CHAIRMAN :—I rise to say that I am extremely sorry to tell you that Lord Ebrington has been prevented from coming to read the paper which he has prepared on the very interesting subject which comes before us to-day. He is prevented by his doctor's orders from coming. I am sure that nothing short of that would have kept him away. But, however, he has asked his brother to take his place, and I think the matter could not be in more able hands than his. We all know him as a very able writer, and I am sure that in taking Lord Ebrington's place he will acquit himself to your satisfaction.

LECTURE.

I SUPPOSE there never was a time when greater interest was taken in the Army than the present. Hundreds of men who previously knew little and cared less about the soldier now realise that his well-being is intimately associated with their own; for the stern experiences of war, coupled with the discussions on Army Reform, have brought home to all classes the following facts :—

1. That the present system leaves something to be desired, inasmuch as under it the number of effective soldiers is very much less than that on the muster rolls.
2. That it is indispensable to our national existence to attract to the colours a very large number of recruits yearly.
3. That it is doubtful if the present rate of pay will get the men.
4. That as even threepence a day increase of pay for the Army means a matter of a million, and sixpence would more than swallow up the whole of the Inhabited House Duty, increase of pay should not be resorted to till improvements of barracks and of regimental administration prove insufficient inducements.
5. That the experience of the Natal Field Force canteen, which, by eliminating the middleman, made in a few months £13,400 profit for the soldiers of the force, suggests a method by which the soldiers' emoluments and comforts may be increased without expense to the taxpayer.

This last, of course, is no revelation to the Army itself, which has long been familiar with regimental institutes, and has long enjoyed a portion of the profits arising therefrom; but no one who has studied the canteen question, however slightly, or has been concerned in the administration of one of these institutions, would contend that either

the country or the soldier gets as a rule the maximum of advantage out of them. For the supplying of even the simplest wants to something like a quarter of a million of men means a very large turnover; and however cheaply you sell, a large turnover in retail dealings for ready money must mean a considerable profit. A penny a head a day profit on the dealings with 250,000 men means in round figures £400,000 a year, and if a man buys three half-pints of beer in a day there is a profit of that sum.

I do not venture on estimating what the profits made by supplying the Army with beer, minerals, groceries, and necessaries may be, but I think I am justified in saying that in bygone days the contractor and his agents in barracks got the whole of it; that, till late years, they always got the lion's share; and that it is only recently, and that not universally, that the British soldier has got anything like what rightfully belongs to him.

I need not argue whether canteens are necessary or not, for it is admitted on all hands that a well-conducted bar and general shop are indispensable to every barracks, and it stands to reason that a considerable profit is inseparable from trading of that kind which is conducted entirely for ready money. The question is, What is the best way of carrying on the business, and who is to get the profit? Under the present system, as all my hearers are aware, regimental institutes are managed by regimental committees, and, except in special cases where tenancies have been sanctioned, are served by men who are taken away from military duties to act as bar-tenders, waiters, salesmen, and clerks. But not many soldiers, and very few of the public, realise that the equivalent of a brigade is always employed in a fashion which does not increase the fighting efficiency of any one of them, and which disgusts the officers, who are expected to prove themselves successful grocers, and tends to demoralise the non-commissioned officers, who are exposed to the temptations of competing tradesmen.

I know that good results can be got under the present system, notwithstanding the obvious difficulties; but they are only obtained when officers give up to shop-keeping either a great part of their leisure or a great part of the time which the taxpayers pay them to devote to military duties. When the work is done perfunctorily, great abuses ensue. But as the military authorities have practically made up their minds that the present system is a thoroughly bad one if laxly administered, and that it is false economy of officers' and men's time to administer it well, I will leave it and pass on to the alternative.

The alternative usually suggested is the tenancy system, which prevailed in former days, and which then worked so ill that it was superseded by that which is now in turn to be abandoned. The reasons why the tenancy system on the old lines worked ill are not far to seek. No one had an interest in the profits but the tenant; that his profits might be large, he sold inferior goods; that inferior goods might be accepted, he bribed the non-commissioned officers, or subscribed, on a scale that appeared liberal, to regimental funds and clubs; and it never seemed to occur to anyone that breweries are not benevolent institutions, and that if a brewer gives £50 in cash or kind for the privilege of supplying a regi-

ment with beer, he does so with the full intention of recovering the £50 and a good deal more besides from the consumers of his liquor.

The questions to be solved appear to be: first, whether the tenancy system is not capable of being administered in a way that shall eliminate the bribery and corruption of old days, and secure to the soldier sound articles, fair prices, and the whole profits on the trading after payment of expenses and a moderate interest on capital; and, secondly, whether what is necessary to this end cannot be done without withdrawing a brigade from military training. It may be suggested that tenancies on the rebate system solve these questions in a simple manner, but the more that system is examined, the less simple it becomes. It is easy to draw up a scheme on paper setting forth that the average strength of a battalion will be so many—that the average expenditure in the wet canteen will be so much a month, and in the dry canteen so much more—that the profits on such a turnover may be expected to be so much per cent., of which so much is to be returned to the battalion, while the tenant shall be allowed the balance for his trouble and risk; but in practice it is very difficult to make, with an ordinary contractor, any arrangement as to rebate which shall be fair to both parties. A bargain that is fair one month may, through fluctuations in the market, or alterations in taxation, become unfair the next; and a spell of hot weather or rain will affect the takings materially, as will an influx of recruits or the departure of a draft, though the numbers may be maintained. I can quote a striking instance of this from the accounts of a canteen where, in two successive months of this year, the takings in the wet canteen fell from £358 to £105, though the diminution in numbers was only 83, and the sale of groceries was hardly altered, falling only by some 5 per cent. In face of such possibilities, a middleman is bound to protect himself against loss; he can only do so by making a contract which will, in favourable months, give him an undue profit, and expose him to be under-bidden by competitors. Or, if his contract is no more than fair to himself in normal times, he is tempted to recoup himself for a spell of bad luck by putting in a lot of inferior goods and taking the usual steps to prevent their inferiority being detected or reported on. And once he has succeeded in getting inferior stuff accepted, he is never likely to revert to better; for though most officers are fair judges of bread and meat, yet they are not, and cannot be, experts in the quality or value of groceries; and none but an expert can say with authority that a sample of tea is in fact worth 10½d. instead of 1s. a pound, or that changes in the American market justify an addition to the price of cheese.

Besides the difficulty of arriving at a fixed rebate that shall be fair all round, and of getting the standard of the goods kept up to sample thereafter, there is an objection to that system which I think is a very weighty one: namely, that under it, it is the contractor's interest to discourage temperance and to encourage the consumption of beer. For very little experience shows that it makes all the difference to the profits whether the money is spent in the dry canteen or the wet. At even 4d. a quart for mild ale the profit is very large; while the King's

Regulations require groceries to be sold as near cost price as may be. Besides, nothing is less trouble to serve than a glass of beer, while a cup of tea has to be made and a rasher of bacon has to be cooked, etc.; so a canteen tenant who is interested in the profits is bound, for his own advantage, to push the sale of liquor. He cannot afford to discourage drink, or his pocket stands in danger; so, human nature being what it is, methods will be found by which, without exposing himself to penalties, his pocket will be safeguarded. In view of the well-established connection between crime and liquor, this is, to my mind, a very grave consideration, and one which, by itself, almost suffices to condemn the ordinary rebate system.

There is only one plan, as it seems to me, by which these objections can be avoided—that is, that the Army should become its own middleman, and, by adopting the co-operative principle, secure for itself the whole of the profits on its trading, whether in food, necessaries, luxuries, or drink. Though the universal application of these principles would be a new departure in our Service, it would only be the following of a lead given long ago by the Rochdale pioneers to the working men of England, and the adoption of a system which is in actual operation in the Italian Army and Navy, and is now being strongly advocated as regards public-house trade under a system initiated by the Bishop of Chester and others and generally known as the Gothenburg system.

The last annual report of the Co-operative Union of the United Kingdom gives some striking figures:—

> "During the last 39 years, the Co-operative Societies of Great Britain have done trade to the amount of over a thousand million pounds, which has resulted in a profit of 100 millions, which has gone," *not to shareholders or capitalists*, but "to the members of the Societies, and has been divided among them in proportion to their purchases."

What wonder that the members now number nearly a million and three-quarters? And as they are mostly heads of families it follows that something like six million people, say one-sixth of the population of Great Britain, are supplied by them; and every one of their number has the satisfaction of knowing that he is dealing with an institution which has no wish to make money out of him, and which will return to him and the other customers all surplus profits that may remain, after providing expenses and for payment of a limited interest on the capital.

It may be argued that a system that works well on this scale would not be equally applicable to our Army, whose numbers at home will not greatly exceed 200,000 men, divided among a great number of garrisons and cantonments. But I am emboldened to doubt this from my knowledge of the working of a Co-operative Association in the West of England, which was started 21 years ago with a subscribed capital of but £6,000, to supply farmers and landowners with the requirements of their business. The first year the turnover was under £20,000, but the association soon got a good name for supplying sound articles and reliable manures, equal to the analysis supplied with them, and by last year the business had grown to all but £370,000.

There are 23 stores scattered over the South and West of England from Southampton to Cardigan and Penzance, and everything required on a farm or estate, from basic slag to a boot-brush, can be bought at them; but the whole concern is run by a committee of ten county gentlemen and farmers with a managing director. The Association is not quite on the same footing as the societies which make up the Co-operative Union, as it is registered under the Joint Stock Companies Act, instead of under the Industrial and Provident Societies Act, but the interest paid on the shares is limited to 5 per cent., and surplus profits are returned to the customers: of late years at the rate of 4d. in the £ on their purchases.

There is also a Society, of which I have the honour to be chairman, which has for six years past been trying to introduce the Rochdale system for the supply of regimental institutes, and I think that its success would fully warrant the extension of that system to the Army as a whole.

I have said enough, I think, to show, if proof were necessary, that there is nothing in the profit-sharing co-operative system that is alien to the tastes or instincts of Englishmen, and the example of the Western Counties Agricultural Co-operative makes it clear that a large concern delivering goods in varying amounts at almost every railway station in the western district, can carry on business successfully at moderate expense under the management of gentlemen who, so far as concerns technical commercial training, are just as much amateurs as officers of the Army. There may be those who will contend that it does not signify what becomes of the profit on the soldier's consumption of beer and groceries, that it is not worth while taking the trouble to secure his getting the benefit of it, and that if the State does not annex it in reduction of the Army Estimates it is not bound to take precautions to prevent its sticking to the fingers of canteen stewards, or swelling the gains of brewers and contractors. The action, however, of the authorities in past years who have laid down the principles that the profit on the soldiers' dealings should belong to himself, that peculation is bad for the tone of the Army, and that the men are not paid by the taxpayers in order to make dividends for those who cater for them, relieves me from the necessity of arguing this point.

One thing is very clear: that every 100,000 men in the Army spend, one with another, in canteens, wet and dry, 25s. to 30s. per month apiece—equivalent to something between £1,500,000 and £1,750,000 a year. Careful enquiry shows that, where there is no peculation, and where canteens are carefully managed, the legitimate profit resulting from this is not less than 1d. per man per day, and may often be a trifle more. But it is universally admitted that these results can only be obtained when officers take a great deal of trouble about matters which do not advance their military efficiency or preferment in the slightest degree.

The establishment of a central co-operative organisation would not only secure the full retail profit to the men, but would give them also the benefit of the middleman's profit, amounting to a considerable sum (the

Co-operative Wholesale Society returns 1¼ per cent. on its turnover) over and above all that could be made by the most careful management of regimental institutes.

I have suggested some reasons and brought out some facts which go to show that no ordinary tenancy systems of any kind will be free from the objections which the Canteen Regulations are designed to overcome and destroy, and I have indicated a principle (that of co-operation) which is in successful working elsewhere, and which undoubtedly prevents peculation and secures his profit to the consumer; and it seems to me that the burden of showing that any better principles can be adopted for the supplying of the Army lies with those who believe that a system which suits a sixth of the population of Great Britain is unsuited for that fraction of it which is being trained in barracks for military service.

Mr. C. B. HEYGATE (Secretary Canteen and Mess Co-operative Society) :—Perhaps the reader of the paper might give us a slight sketch of this co-operative system which his brother, Lord Ebrington, advocates. There is nothing in the paper to go upon. Perhaps he can give us just a short skeleton sketch.

The CHAIRMAN :—Of the co-operative principle ?

Mr. HEYGATE :—Yes.

The Hon. J. W. FORTESCUE :—I imagine that there is very little more than is included in the paper—that the dividend to be paid on the subscribed capital should be strictly limited, and that beyond the payment of expenses all profits should go back to the consumer.

Mr. HEYGATE :—But who is to supply in the first place the beer and groceries and so on ?

The Hon. J. W. FORTESCUE :—That, of course, would be the central organisation. It would depend upon whether you have a central organisation or not. There is an allusion to a central organisation in the paper, but it was not a matter which my brother cared to put forward or elaborate at very great length. But it would not be very difficult to do so, I think. There is a model. There is the society of which my brother at this moment is chairman. The committee of that society, I dare say, will be very glad to give information. I imagine that their system could be extended indefinitely. The society to which I allude conducts its business strictly according to the Rochdale system, which is a certain safeguard of integrity in its dealings.

Mr. ADAM DEANS (Co-operative Union) :—May I be permitted to say a few words ? I may say that I am representing the Union here, because Mr. J. C. Gray is prevented from being present. I have listened with much attention to the reading of this paper, and as I heard the remarks on certain phases of military life, I thought that the gentleman who wrote it must have joined the Service very young and devoted very considerable time and attention to studying the peculiarities of the Army. I know that years ago the goods supplied to the soldiers were comparatively of a very inferior quality. I had a friend in a military hospital, and once or twice, in fact several times, in visiting him, I had an opportunity of seeing the food that was supplied to the patients, and, to say the least, it was very inferior. Why was it ? Simply because of the system which the writer of this paper complains of. There had been too much bribery and corruption in the supply of the ordinary necessaries of life to soldiers, with the result that the soldier, unfortunately, has suffered in the past. Therefore, I am pleased to see that a determined step has been taken by certain officers in the Army who have been in a position to understand the requirements and to study the question, and are trying to do what they can to mitigate the evil. The writer of the paper has stated that there is a certain organisation which has been called into existence for the purpose of stopping or preventing the recurrence of that which I have mentioned. I presume that he

alludes to the Canteen and Mess Association. If so, I can only say, from what little I know of it, that it is a most worthy association, deserving the consideration of every military officer who has the interests of his soldiers at heart. Perhaps it would not be out of place if I were briefly to describe the Rochdale system of co-operation, because I apprehend that it is the system which the writer of this paper had in his mind in advocating the adoption of co-operation for the Army. The Rochdale system, then, is simply the binding together of certain individuals who are determined to do for themselves that which was formerly done for them, and obtain good and pure articles at a fair and reasonable price. The writer of the paper points out that those who make a profit on the turnover of an article have every inducement to perpetrate a fraud in the shape of adulteration for their own benefit, and he is quite correct: for we know that, where a man's pocket is concerned, very frequently his honest scruples are often of a very limited nature indeed. The Rochdale system says:—"We will go into the market where the goods can be bought at first cost, and we will sell them amongst ourselves in a pure state, because we have no interest in adulteration, and then the profit which is made in the transaction will come back to us in the shape of dividends in proportion to the purchases that we make." That is a very fair and reasonable system. It was introduced in 1844, and it has gone on in a most marvellous way. The first step was the establishment of a store for the obtaining of the ordinary necessaries of life, and then to expand to meet other requirements. Perhaps, Sir, you will not mind my quoting a few figures to show the great benefit that has resulted, and with the hope of stimulating some of you gentlemen to take the system up and encourage it in the Army. May I be allowed to quote just what took place last year? At the present time there are some 1,634 societies, with 1,827,653 members, representing about 8,000,000 of the population of England and Scotland. They have £23,103,729 capital, which they never would have had if it had not been for co-operation, for they are only working men. The value of their stock is £8,961,768, and their cash in hand is £3,325,484. They have 45,648 men employed by them in distributing the goods alone, and in production they have 37,403 men and women engaged in making articles that they require, such as clothing, boots, etc. Last year their wages bill was £2,902,140. The interest on the capital invested in their business was £933,344, and the trade during the year amounted to no less a sum than £77,276,808, making a profit of £8,573,800. Just another item. They have spent £64,147 on education, because they believe in educating the people in the system of self-government, and teaching them how to behave as reasonable citizens; and they subscribed £39,169 to charities. Now I think that a scheme which has done so much for the ordinary working man will do the same for the ordinary soldier. If it has done so much under the control of working men, how much better will it do when it is taken up by educated men like the officers of the Army? Co-operation has discouraged dishonest trading, and if the co-operative system is more extensively adopted in the canteens the soldier himself will be much better fed, and he will know that the articles that he buys will have cost exactly what he has given for them, plus the amount of profit that will come back to himself after the 5 per cent. interest on the capital has been paid. Surely these officers who have surplus capital will not hesitate to invest it in a good cause at 5 per cent., more especially when they realise that they benefit the soldiers, whom they profess to love so much. This is a brief outline of what co-operation has done. I may just be allowed to conclude what I have to say by a few words on the progress of my own society, of which I have the honour of being chairman. I mean the Royal Arsenal Co-operative Society. No doubt some gentlemen in the room know where the Royal Arsenal is. That society began some 35 years ago with 42 members and a capital of £27. They did a very small trade indeed in the first quarter. I think they did about £66. That was 35 years ago. From that time to the present that society has gone on increasing and multiplying, until now they have just upon 18,000 members, doing a weekly trade of £8,000—£8,000 spent in the purchase of what they require at their own stores. Last year they paid out in the shape of profits £60,000. That was money they never would have had if it had not been for co-operation. They have a capital now to their credit of £280,000

saved through co-operation, and they have bought an estate to carry out the original idea of the Rochdale system, at a cost of £70,000. This estate is being laid out for building purposes, and they have already invested £140,000 upon it. When the scheme is carried out in its entirety, it will mean 4,500 houses — houses built to be inhabited by some 20,000 people. This is all the outcome of co-operation, working hand in hand, encouraging thrift, eliminating the middleman, and stopping adulteration, by doing for themselves what formerly had been done for them. That is just what you should do, I think, for the Army. The writer of the paper has gone into the matter, and if he could only persuade the Army in general to adopt the co-operative system, the Canteen Association, although it has been doing fairly well, will do better in the future. And who will benefit by it? Was it started for the benefit of the officers who invested their money in it? Certainly not. It was started for the benefit of the soldier; and I say advisedly that no class of men ought to study the soldier's interest more than the officers of the Army. That is the whole thing summed up. Personally, I do not think that you could encourage a better system. I am sure that by its adoption you will put a stop to the practice of palming off on the soldiers inferior articles; you will, by displacing the middleman, put a stop to evils which follow temptation; you will encourage the soldier to take an interest in it because of the profit made: you will give him wholesome food, because no one will have an interest in imposing upon him: and you will give the officer an opportunity of showing that by investing his money in co-operation he is supporting a scheme which is calculated to improve the welfare of the ordinary soldier.

Major-General J. McD. MOODY (late R.M.L.I.):—I feel somewhat diffident in speaking this afternoon, as I have been out of the Service some years. I do so, having been invited by the Council of the Institution to be present. I fancy that we should have had a very much larger meeting if more notice had been generally given of this lecture. I only received mine yesterday. Everyone that hears or reads the lecture must be pleased that such a man as Lord Ebrington, from his position and from his busines training in various departments of life, should have taken up this subject of canteen management. We hear it discussed in a perfunctory way occasionally, and various suggestions of a more or less practical nature made to improve it. This paper is of a practical character. I think, however, that the lecturer is too modest in his paper, as he only incidentally mentions his own efforts to solve the problem. We must all regret his absence to-day, particularly as it is caused by illness. I am sorry that he has not mentioned the name of the co-operative society to which I suppose he refers, and in which he has taken, I know, a great interest. This, as many of us know, is the Canteen and Mess Co-operative Society.

The Hon. J. W. FORTESCUE:—The idea was to bring forward the system rather than the society.

Major-General MOODY:—Quite so. But as the noble lord has not mentioned the society, I may be permitted to do so, and to say a few words about it as an illustration of the practical working of the co-operative societies in connection with canteens. We have heard a great deal of how co-operation works in civil life from the last speaker. I am sure that under Lord Ebrington's chairmanship there is excellent work now being done by the Canteen Co-operative Society, and it has a great future before it, providing it receives the support it deserves. The inception of it was entirely due to an officer of the Grenadier Guards, Major Crawford, who had the command of the Guards' Recruiting Depôt. He drew up the rules under the Friendly Society Acts, taking the idea from the Wholesale Co-operative Society, and worked the Canteen and Mess Co-operative, as it were, as a branch of this great co-operative organisation. The beginning was very humble, the cost of the first office being only six shillings a week. It met with great opposition from interested people. It appears strange that although it has been going on now for six or eight years so little is known, and so little interest taken about it in the Service. I think that if it was made better known by officers going round the garrisons and holding meetings of the men, and of the canteen

authorities in the gymnasiums, and explaining the intentions of the society, it would have a much larger trade, large as the trade is now. I saw the annual balance sheet some time ago, which shows a very large business, and there is no doubt that the society has been carried on remarkably well, and so far as it has gone has done excellent work. The profits go to the men after paying a small percentage on capital (5 per cent.), and that percentage on the capital invested cannot be exceeded. This was one of the first rules made when the society was first started. I may say, I took an active interest in the society from the first, not so much as regards the groceries, but I thought, and still think, that good beer was, and is, so important to the Service—crime and bad liquor go hand in hand. I do not know how it is now since I left the Service, but first-class brewers rarely, if ever, had the supply of canteens. Why is that? There must be some reason, because the first-class brewers are very anxious to supply anybody who comes to them. The hands of the first-class brewers are absolutely clean. I do not say that anybody else's hands are anything else; but first-class brewers, we may take it, will not descend to any dirty work with anyone. It was the ambition of the first committee to get the supply in the hands of first-class firms, both not only for beer but all supplies. We all tried our level best to start on these lines. I must say that in the three years I was connected with it we never made any way about the beer. We had a certain number of firms that were picked out very carefully, men of world-wide reputation, and we never got an order for any one of them. The idea was that the orders for the beer should simply come through the Canteen and Mess Society, and that the canteens should pay the Canteen and Mess Society, and the Society should pass the money on. It appeared so very simple, but somehow it never answered. Whether it has answered since I do not know. I hope so. I have noticed recently, to my surprise, in the papers certain straws go up occasionally about canteen tenants. I am old enough to recollect when the corps I belonged to, the Royal Marines, then used to have canteen tenants, and it was as bad a system as you could well introduce. But somehow or other, I cannot tell why, such things are brought round by some influence that is set going, they are written up, and they are advocated, and by and by a *trial* is given to them again. But I hope to goodness that no authority will sanction this system again. I am sure that as long as our present Commander-in-Chief is in his office he would not for a minute allow it to be introduced even experimentally. It is a very bad system, and the lecturer does not say a word too strong about its evils. One great weakness of the canteens, under any system I have seen, is, not paying the canteen stewards liberally. You ought to give the canteen steward first-rate pay. The better you pay him, the better class of man you get in. The system intended to be introduced by the Co-operative Society was to supply canteen stewards at good wages, and they would be more or less—I do not say exactly—the servants of the Canteen and Mess Co-operative Society; but, at any rate, they would work with them, and it would be the business and interest of these stewards to work for the good of the men, and to see that the interests of the Canteen and Mess Co-operative Society were preserved. Another subject which I should like to incidentally mention is, that I think that the canteens would be better managed if officers, or some of them, were educated in book-keeping. I have often thought that in the Army examinations a voluntary subject should be book-keeping. Considering that we are a great commercial nation, and that many officers when they leave the service go into different businesses, how useful it would be if they learned book-keeping when they were young—it would be a great advantage to them both in the Service and out of it. I have known successful officers who have been in business or connected with business as young men, who had to some extent a business training which has always come in well for them either in messes or canteens. I dare say that some of them are in your minds. Why not give marks at the Army examinations for book-keeping as a voluntary subject? We have subjects that are useless enough in examinations; but why not have a useful subject like book-keeping? Book-keeping nowadays is taught in board schools, and perhaps some people know a little too much about it; but, at any rate, I think that for officers, or a percentage of officers, it would

be a great benefit in canteens, and in business connected with the Army, if book-keeping was made a voluntary subject. To manage a business society you must have men of business, men who have learned business or acquired it. I have nothing more to say, and I thank you for the kind attention with which you have listened to my remarks on this valuable lecture.' Co-operation is bound to succeed in spite of any amount of interested opposition, if it is run on right lines by capable people.

Colonel E. GRATTAN (late A.S.C.) :—It seems to me an astonishing thing that all this great machinery of co-operation should be required when you have the means already to hand to supply the soldier. He should receive a complete free ration in kind from the Government. This would assist recruiting, as I find, from enquiries amongst working-men, that many of them are under the impression the soldier is insufficiently fed. The scale of rations should be shown on recruiting posters for the enlightenment of the public. There is no reason why the War Department should not issue tenders for groceries and the extra articles required in canteens in the same way that they do for bread and meat. The machinery is already to hand, and there need be no difficulty at all about it. The first speaker mentioned as an inducement, what is, in my opinion, the very strongest objection possible to the proposed Army co-operation, that is, the officers investing their money in it. However pure the intention might be, or however much the soldier might benefit by the system, it would engender discontent, as the men would feel that if they appealed against any article, they would be appealing to the proprietors, who would have disciplinary power over them. As a matter of fact, the men have no faith in the present canteen system, because they believe subordinates make money out of it. We know their suspicion is justified in many cases, and I am afraid this suspicion would be transferred to officers if they subscribed capital to establish stores, at which their men would be bound to deal exclusively. The suspicion would be groundless, but it would be unwise to adopt any system that might give rise to it. With regard to the proposed canteen co-operative society. The soldier cannot be a co-operator in the sense that the ordinary working-man is, because the soldier moves about from place to place, and in a few years he is discharged, and would lose all benefit from the profits made upon his custom. The civilian co-operator is a permanent holder, and cannot be deprived of his interest, but can dispose of it if he thinks fit. The soldier can obviously never be a co-operator of this kind, for the simple reason that his interest must lapse when he quits the Army. Free will is the essence of the co-operative principle, but the proposal before the meeting is to compel the soldier to adopt a system that is devoid of all co-operative essentials, and in the organisation of which he is debarred from having any voice. Would gentlemen who advocate this system like it to be applied to their own messes? The object we should aim at is to let the soldier have full value for his money while he is serving, and not the accumulation of canteen funds. Do this, and you will remove one cause of discontent, and a contented soldier is your best recruiter. I have given as much attention to the subject as most people, and I am certain it can be easily put on right lines by the War Department, and by it alone. The old tenant system was bad—I remember it well—the regimental system is worse; I assisted to start one of the first canteens worked upon it. Co-operation on the lines indicated to the meeting would obviate one class of evil, but would introduce elements that would have a more baneful effect upon the Service than either of the other two systems. The department responsible for the Army should take up the matter seriously, brush theories aside, and settle it on sound business lines.

Colonel H. S. E. REEVES, C.B. (late A.S.C.) :—I should like to say a word following my friend Colonel Grattan. He takes exception to the co-operative principle as explained by the secretary of the Co-operative Union, by saying that the machinery already exists for the soldier to get everything that he wants. Does he include beer?

Colonel GRATTAN :—Certainly.

Colonel REEVES :—Whenever he wants it?

Colonel GRATTAN :—Yes. The present system will lend itself entirely to that.

Colonel REEVES :—Then Colonel Grattan instances the bread and meat supplied to the soldier, and also the grocery ration ; but he must be aware, surely, that there is no profit on that, or if there is, Tommy Atkins does not get the profit on the supply of rations. That is not a real co-operation. Colonel Grattan also took a point with regard to the officers putting in their money, or lending money and finding capital, for particular co-operative societies. We are not here to discuss any particular society at all. We are here to discuss the co-operative principle in the Army as applicable to canteens, and whether it can be applied to the Army as well as it has been applied to civil life. In co-operation all men who associate themselves together to do a certain work must get a certain amount of money. They must borrow money from a bank or from somewhere, and if those officers who are blessed with this world's goods choose to advance some of the money for what they consider a very laudable object, I think that it is not fair to accuse those men in any way, or to make the slightest inference against those men, of making a good thing out of it. Colonel Grattan ought to know the British soldier as well as most people. He will know that many men will always grumble ; but I say that there is no body of men in the world more honourable than the officers of the British Army, or who take more interest in the men to make the best of their position. With regard to soldiers moving from one place to another, of course a number of people in those co-operative towns might go, we will say, from York to Bristol or to any other place, wherever it may be. A man who moves from one place to another will not lose his advantage. He gets his share of the profits from the institution he deals with. So I do not see how that argument applies to the soldier. I cannot sit down without saying how very sorry we are that Lord Ebrington himself has not been here to give us the lecture, and I must thank Mr. Fortescue for the very able way in which he has put the matter forward.

Colonel H. H. A. STEWART (late Donegal Artillery, S. Div. R. A.) :—I should like to make one brief observation on a remark of the lecturer. He says :—"Not many soldiers, and very few of the public, realise that the equivalent of a brigade is always employed in a fashion which does not increase the fighting efficiency of any one of them." That is in the canteen ; but the lecturer does not suggest what the alternative should be. I believe this to be a very improper system, and I have had very considerable experience of canteens both among the Regulars and in the Militia at home and abroad. I think that it is very wrong that a brigade should be taken away to attend to canteens, and I submit that the proper course might be to employ soldiers of the reserve and pensioners in looking after them, instead of young soldiers, who should be learning their duties. In making this observation I wish—*à propos* of a remark from you, Sir, that the question is one of "co-operation"—to submit that it is the "canteen" question that we are discussing, and not the question of co-operation only.

Colonel GRATTAN :—May I just say, with regard to what Colonel Reeves said some time ago, that one of my strong points is that the soldier gets his rations free, and there is no profit made upon them, and there is no taxing a man at the present time to accumulate a fund to benefit his successors afterwards.

Colonel F. J. GRAVES (late Commanding 83rd Regimental District) :—May I just say a word upon this, taking up the last point that Colonel Grattan brought out? I do not think that it is a question at all of accumulating a fund for the men's successors. No commanding officer ought to be allowed to do so. I got rather into hot water when I was in a regiment at Aldershot, because I insisted that the canteen profits which were thus obtained were actually the property of the private soldier—not of the officers, but the rank and file—and I refused to be any party to dispensing those profits, which I considered belonged to the men, among some of the military charities. I found that I was within the four corners of the regulation. I gave the money back at the time to the men who brought that

profit. The grocery charge was reduced under that system from 3d. to 1d., and my successor, Lord Beaumont, carried it out still further, and used to get something like a ton of fish a week all the way from Grimsby in order to give the men a good breakfast. There are three principles put before us in this lecture—two actually and one by inference. First of all, the old system of the regimental officers. Well, as the lecturer says, they are not born shopkeepers. They do not know the difference between tea at 10d. a pound and tea at 1s. a pound: and I think that their intellect and energies might be much better directed than in that sort of petty shopkeeping. Then there is this much-abused contract system. Just at this moment, it is not so generally known as it ought to be, there is a tendency to revert to it, and there is no question that if we could get the first-class brewers of the day to undertake the contracts, it might be worked with advantage to the soldier. Under these two systems the soldier surely—not his successor, but the soldier serving—does get a share of the profits of the canteen. But the point that was brought out by the lecture is to my mind that these profits are not sufficient—that the soldier does not get a sufficient return, and that he would get a very much better return were a different system adopted, namely, co-operation. I am quite *in nubibus* as to how co-operation might be applied to the Service. I ask simply as a learner. I want to know this: Under the system of co-operation, is it suggested that the Government, as such, should establish a large organisation on the principle of co-operation? Are there to be central stores—we will say two or three in England, one or two in Scotland, one or two in Ireland, and so on? Who are to administer those stores? What are they to be? And, as numberless regiments will deal with this, that, and the other store, how are the profits to be distributed amongst those regiments if co-operation is to be carried on? I think that at the present time, at any rate, the Government have got a good many other very large fish to fry.

Lieut.-General Lord W. F. SEYMOUR (late Coldstream Guards):—I think, Sir, that, as Colonel Graves said, the question is narrowed into three parts. I am old enough, like General Moody, to recollect all the iniquities of the old tenant system. It was superseded very efficiently by the regimental system of canteens. That system has continued more or less for the last twenty-five years, and I do not think that I shall be contradicted when I say that the system succeeded in a most marvellous manner. But at what cost? At the cost of commanding officers having to dive into the ranks of officers to find men who are shop-keepers, who have not been educated exactly as such, although it was proposed just now that they should have a shopkeeper's education. However, that was tried, and up to the present very few people have found fault with it, except the unfortunate volunteers themselves, who, I know by experience, have worked two or three days and nights in the week in order to render the canteen returns correct.

The CHAIRMAN:—By "volunteers" I presume you mean the officers who volunteer to look after it.

Lord W. SEYMOUR:—Yes, the officers who volunteer to look after it. There is no doubt that the military training of the men for the future will be entirely in the hands of their officers, and that we shall not be able to spare an officer of any kind in the regiment for the purpose of keeping the shop. Therefore, as the lecturer says, the days of regimental canteens are numbered. Now, Sir, we must come to an alternative. We cannot go back to the old tenant canteen. We cannot, continue the regimental system; and therefore, what are we to do? Seven or eight years ago this Co-operative Society, of which, I am afraid, I know very little, except from having seen it working away in a quiet and unobtrusive manner in Westminster, came forward to the assistance of the British soldier. There was no question, as Colonel Grattan put it, of officers making 5 per cent. on it. The officers—I believe, most of them retired—came forward simply as co-operative men to represent the soldier. As the gentleman who spoke on co-operation said, the co-operative societies in Yorkshire and Lancashire, and elsewhere, are managed by companies of men who can give their spare time for it. As has been said by a previous speaker, it is impossible for the British soldier to form himself into committees;

besides which I think myself that our experience is, even in small societies like regimental societies, that the English soldier, N.C.O., or private, does not lend himself as a good committee man. Therefore, this society of co-operation has come forward, as a third party, to represent the soldier in committees of co-operation. Great returns are not demanded, and the returns, as I understand, and as I hoped would have been better explained by a member of the society, show that the surplus profits after paying rigidly the expenses of the institution, return to the pockets of the men themselves, instead of into the hands of contractors and middlemen.

Colonel H. GUNTER (late Norfolk Regiment) :—I should just like to say a few words as to what has been said by the last speaker. I do not see how in any way this co-operation gets rid of the regimental canteen. I cannot see how you get rid of your regimental committee. Unless you do away with the whole system altogether, you have still to send in your canteen returns. I do not think that we have enough before us to be able clearly to see how this co-operative system is to affect the regimental officer. That is the point that, as it seems to me, has to be worked out. We have heard a great deal about co-operation. It sounds very well. There is no doubt that it has worked perfectly in certain societies, but whether it can work perfectly in a regiment moving about is another matter. Unless it is entirely a station system, in which case the regimental officer would have nothing to do with the management, or unless there is something of that kind, I do not see how we are in any way better by co-operation than by the present regimental system. I have lately had something to do with canteens. Where I was serving everything connected with the canteen contracts was taken entirely out of the hands of the regimental officer. It was open to tenders, and the tenders were sent in to the staff officer, so that really and truly the regimental officer, as it appeared to me, had a great deal of the responsibility, but none of the power of regulating the supplies for the canteen. It might turn out to be a good system. I can only answer for it in one thing, and that is, that it was a very expensive one, for I am perfectly certain that any profits that might come were entirely discounted by what we had to pay for advertisements for tenders. But there is a point I should like to bring out. I should like very much to have something said to show how the regimental system is got rid of by this system of co-operation.

Mr. C. B. HEYGATE (Secretary of the Canteen and Mess Co-operative Society) :—Perhaps I might explain, Sir, the difficulty which was raised by the last speaker—that he did not see quite how co-operation could be applied to the regimental institution, or how it would relieve the regimental officers of the work which they are now doing. I suggest that the lines on which the organisation should try to start might be something like this: Regard the regiment as a village, and the regimental institute as being like a village shop. That shop, instead of buying as it does now from different people, would buy from a central organisation. The central organisation would not only provide goods, but it would provide the working staff. It would also be responsible for the working of the accounts; and in that way the regimental officer gets rid of the details, and at the same time retains the central responsibility or necessary authority, because each regiment would have its own members at the central board. I do not say whether there should be district boards or one universal board, but the principle should be that every regiment is represented on the board, and if its own regimental shop is not run properly it would see to it, and would represent what was going on. I hope, Sir, that this may throw some light on the last speaker's question.

The Hon. J. W. FORTESCUE, in reply, said :—There seems to be tolerable unanimity as to the acceptance of the system; perhaps I cannot say positive unanimity. The principal defect which appears to be noticed is, the lack of a comprehensive scheme for supplying the co-operative system ready-made to the Army. Well, that of course is a very large question. I did not come down here with such a scheme cut and dried; and it is plain that it must be dependent, in respect of many details, upon matters of military organisation, which are still unsettled. A gentlemen was asking just now whether there should be a central establishment, and who will administer it, and how would the

profits be distributed, and so forth. That is an important question. I think, for my own part, that if such a matter were committed to me, I should certainly endeavour to have a central organisation. First of all, I should go to the Co-operative Union and find out all I could as to their system. Then I should endeavour, I think, to have a central office, which should buy all goods in bulk in large quantities, and so obtain them more cheaply. That would be a large central store, which would have subsidiary district stores for distribution. Then arises the question of capital. One gentleman raised very strong objections to officers (as I suppose he would say) selling goods to men. Well, no doubt there are very great objections to officers selling goods to men. There was a time when officers sold clothing to men: and the results were not satisfactory. But you cannot prevent officers investing their money in any business for supply of goods to soldiers. I imagine that officers might still have their money invested in the cloth business. There are railway companies which convey men, and there are shipping companies which take men to South Africa, and I imagine that plenty of officers invest their money in such companies as these. Recently a large canteen-supplying firm put its business into the market with a fine prospectus of the profits to be made out of the British soldier, but I have heard of no order from Head Quarters prohibiting officers from investing their money in the shares of this business; and certainly there was nothing in the prospectus about limiting the interest on their money to 5 per cent. That is the value of the co-operative system. The officers can invest their money, and their profits being limited by statute to 5 per cent., there can, humanly speaking, be no doubt of the integrity of their intentions.[1] As to management, my brother, in his paper, speaks of the Western Counties Co-operative Society having an expert manager. That would be the system I should like to apply as far as possible—a board of directors or a board of superintendents, call them what you please—with no particular expert training, but men of honour, and a man of business as an expert manager who should be extremely well paid. And I should apply that system, I think, to all the subsidiary districts so as to relieve the officers as far as possible. They have not got time for trade. They must simply have a check upon their expert managers. One gentleman put forward a very valuable suggestion as to the employment of reserve and pensioned soldiers to attend to the canteen. But that is a detail. I did not come here prepared to put any general scheme forward, but that such a scheme could be worked is beyond any doubt. These would be very roughly the main lines of it. Of course we are at the mercy of the War Office entirely on the question whether the board of superintendence shall be composed of officers on full pay or on half pay. But the export trading business should be entrusted to experts, and it would be worth while to pay these experts very highly. Once more, I do not attach much importance to the cry against officers investing their money in business concerned with the supply of soldiers. As I have already said, there is nothing to prevent them from being largely interested in such business; and not a word is said. But when officers have taken the trouble to put money into a business simply for the good of the soldiers, and with their profits expressly limited by statute—well, then it seems hard that they should be looked upon as swindlers.

The CHAIRMAN (General Sir Reginald Gipps, K.C.B.):—I think that we have heard a great deal which is very interesting this afternoon. There are just a few points which have struck me during this discussion that I think I will in conclusion say a few words upon. One is that I think we cannot fail to be very much struck with what we have heard of the management of co-operation as carried out by the Rochdale system and at the Royal Arsenal, which Mr. Deans described to us in his very interesting speech. The result there seems to be very satisfactory. Lord William Seymour, I think, also very much hit the nail on the head, if I may say so, when he said that we had already tried both

[1] But in all businesses conducted on the Rochdale system the shareholders who supply the original capital can be, and generally are, bought out at par from the profits, so that the members practically come to supply their own capital.—J. W. F.

the tenant and the regimental systems for canteens, and that neither was successful. I also remember the tenant system many years ago, and more recently the regimental system. I think that the tenant system, as carried out then, no doubt resulted in absolute failure. The regimental system was an immense improvement upon it, but it had the objection which Lord William Seymour and many others have mentioned. It occupied the time and brains of a large number of officers of the Army and also of the rank and file, who were employed in the canteens, and therefore were kept away from what I must call their legitimate work. The question we have come here to consider is this: The systems of canteen management up to the present having been more or less failures; what is to be done now? Well, when one hears the results of co-operation, I must say that they cannot fail to impress one. At all events, the co-operative system might be tried, and we all know that it has been worked in many ways of late years and has proved an enormous success. We need not go further than the Army and Navy Stores to see that. But the Army and Navy Stores are not an absolutely co-operative society. The notion of co-operation is that the consumers should share the profits—that, in fact, the profit is to come back to the consumer, and not go entirely into the pockets of the shareholders. It seems to me that, if we do not go into co-operation, we shall get on the horns of a dilemma. The canteen that is managed by any other system must be an inducement to the owner of it to make a large profit. The object of co-operation would be, I take it, to make as small a profit as possible. The ordinary proprietor of a canteen will make a profit. He must do it in one of two ways: either by charging high prices, or by selling inferior articles. An institution like the Co-operative Society, that would undertake the canteen system, would not have either of those temptations. The only profit it wishes to make is the return of a small amount of interest. Whether it should be 5 per cent., or 4 per cent., or 3 per cent., or 2 per cent., I do not think matters two straws, because they are all, what I may call, legitimate rates of interest. You must, however, remember that canteens have to be stocked, and that there must be an outlay of money, requiring capital, and that capital must be got in one way or another. It must either be got from a certain number of shareholders or by borrowing the money. Surely there are objections to borrowing the money: but let the money be borrowed if that be thought to be the best plan. However, we are not here to discuss that. We are here to discuss whether any system for canteens that has been brought forward is more likely to answer than the co-operative system. We are very much indebted to Lord Ebrington for having drawn up this paper, and to his brother for having read it, and I think, gentlemen that concludes the business of the meeting.

THE SOUTH AFRICAN WAR OF 1899-1900.

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(*Continued from July* JOURNAL, *page 861.*)

PART IV.

The Opening of the Campaign by the Boers.[1]—According to the wording of the Ultimatum, the war was to begin at 5 p.m. on the 11th October; while the odium of the declaration of war was thrown upon England, in case the latter failed to answer the Ultimatum. This was a clever move, which the Foreign Office omitted to parry.

By honouring the Transvaal with a declaration of war, or even with a despatch amounting to such declaration, England was doing what she had distinctly refused to do before—that is, raising the status of the Transvaal from that of a vassal State to that of a suzerain Power. This done, neither speeches in Parliament and at banquets, leading articles, nor discussions on the law of nations, could alter the established fact.

At the beginning of the war, according to the Official Army List, the English troops on the spot, ready for war, were:—

1. The Natal Force, strengthened during September from 3 battalions, 8 squadrons, and 4 batteries, to 10 battalions, 20 squadrons, and 9 batteries, or about 12,000 men.
2. The Cape Force of 6 battalions and 2 companies of garrison artillery, about 5,000 men, under Major-General Sir F. Forestier-Walker.
3. The garrisons of Kimberley and Mafeking, consisting of Volunteers and Police, under Colonels Kekewich and Baden-Powell respectively.

Total British Force, at most 20,000 men. Some of the reinforcements were already on their way, but no material access of strength was to be expected for four or five weeks. For a time, therefore, the Boers were assured of a numerical superiority of more than two to one.

[1] So many good and cheap maps can now be purchased, that it is unnecessary to accompany this article with sketches. The maps published by the English Intelligence Division are recommended for the study of detail, at least as regards the fighting in Natal and on the Orange River. But the sheets which include the Boer States show only a few contours and roads of doubtful accuracy, and a number of names of places which are themselves not marked, so that the position of the various places is doubtful.

The Boer opening of the campaign seemed intended to utilise this advantage. Their disposition confirmed Moltke's dictum that the first principles of strategy do not rise above the level of sound common sense. As regards the proceedings at the beginning of the war, the common sense shown by the trio, Kruger, Joubert, and Steyn, left nothing to be desired.

Natal was the point on which the concentration of the different portions of the force was directed. For in Natal was the nearest and strongest body of the enemy. Natal is also the easiest province to concentrate upon, as two lines of rail (Kroonstad to Harrismith, and Pretoria to Volksrust) run in this direction. Moreover, the nature of the ground in Natal is best adapted to the strategy and tactics of the Boers.

Many people have compared the opening of the campaign with that of the Prussian War of 1866. I do not think that Joubert had any idea of imitating Moltke; under similar circumstances he merely took the same course as Moltke's—"the simple, natural, and reasonable one." Just as Moltke leaves only a weak force to contain the Hanoverians and South Germans while he attacks his chief adversary, Austria, in superior force, so Joubert only detaches weak divisions against Mafeking, Kimberley, and the Cape, while he concentrates his main strength on General White. Not only was the situation similar to that in 1866, but the nature of the ground was much the same. North Natal, projecting into the Boer States between its mountain barriers, invited a forward movement and concentration of the Boers in the enemy's country. In this case Ladysmith corresponded to *Jicin*.

Like Benedek, and to the great satisfaction of the enemy, White made the mistake of failing to concentrate and take advantage of inner lines. Instead of this, he separated his force into the group at Ladysmith and the advanced, and stronger, group at Dundee. We are now aware that White only adopted this disposition unwillingly, and on the urgent representations of the Governor of Natal; but this does not excuse him. The measures of a responsible chief in war-time must be based upon purely military considerations.

In the first week of October the Boers had nearly completed their concentration on the frontier. The Transvaalers were in three principal bodies, grouped around the north of Natal—Viljoen at Botha's Pass, Joubert at Volksrust, and Lucas Meyer at Vryheid. The main body of the Free Staters, under Grobler, was at Harrismith. All the passes leading into Natal and the fords of the Buffalo River were in the hands of the Boers when the war began.

On the 12th October the Boers began their concentric march into Natal. Of their three columns, one, under Viljoen, moved by Botha's Pass on Elandslaagte; one, under Joubert, by Laing's Nek and Newcastle on Glencoe; and the third, under Lucas Meyer, by De Jagersdrift on Dundee.

The Free Staters advanced in two columns by Van Reenen's Pass and Tintwa Pass on Ladysmith, but first proceeded to the mouths of the

eastern passes to await the arrival of the Transvaalers. A reconnaissance of White's towards Acton Homes on the 13th October failed to "draw" them; and White on his side, in consequence of the unlucky division of his forces, had not sufficient men to drive them back into the passes.

The Transvaalers advanced very cautiously—too much so, in fact, for the strategical situation. A whole week elapsed before they got into touch (on the 19th) with the troops at Glencoe, where General Symons was now in command. Viljoen advanced more boldly. On the 19th he had already reached the railway between Ladysmith and Glencoe, and so was between the two British divisions. A few days before White had recalled a portion of the garrison of Glencoe to Ladysmith. This half-measure, by weakening the advanced garrison, increased its danger, while it did not strengthen the Ladysmith force sufficiently to give White a numerical superiority over the Free Staters.

The Action at Dundee, 20th October, 1899.—Soon after the adversaries had come into touch, a sharp rencontre took place on the 20th October. Lucas Meyer's column, which had arrived first, drove in Symons' outposts east of Dundee, and opened fire from Talana Hill on the English camp. Symons, who had ascertained that only one of the Boer columns was opposed to him, led out his troops to a counter-attack. Although the English artillery soon silenced the four Boer guns, the infantry found it very difficult to advance. The English suffered in the same way as the Austrians in 1866, when they first encountered the needle-gun; the fire of the Boer marksmen caused very heavy casualties (nearly 20 per cent.) in the English attacking columns. Battalion after battalion had to be pushed forward in order to carry the attack over the open ground. General Symons fell mortally wounded, and General Yule took over the command. It was not till, at noon, the English artillery advanced to within 1,400 yards of the position that they succeeded in silencing the Boer riflemen. The infantry assaulted the position, only to find it vacated.

General White's official account estimates the Boer strength at 4,000 men; as a matter of fact, Lucas Meyer's column was only 1,500 strong. Schalk Burgher's column, which was intended to co-operate, had been delayed by bad roads, and did not take part in the fight. His advanced guard, however, succeeded in cutting off and capturing a squadron of Hussars and a company of Rifles which had been sent in pursuit. On this date Joubert's main column was still further in rear, at Dannhäuser.

The Action at Elandslaagte, 21st October, 1899.—On the night of the 20th, White received news of the interruption of his communication with Glencoe. At 4 a.m. on the 21st he sent out a detachment of cavalry and artillery to reconnoitre along the railway towards Glencoe. At 6 a.m. a train full of infantry, with a railway detachment was sent out in support. French found the enemy in superior force at Elandslaagte, and so strongly posted that he telephoned for reinforcements, whereupon White sent out two more squadrons and two batteries by road, and two battalions by rail, and himself proceeded to Elandslaagte. When these reinforcements had

arrived, at 3 p.m., the fire of the two Boer guns was first silenced by the three batteries, and then the general infantry attack upon the front and left flank of the horseshoe-shaped Boer position was developed. As, however, the preparation by artillery fire was insufficient, the first infantry attacks were repulsed with heavy loss, in spite of a three-fold numerical superiority. It was only after a long artillery bombardment that the attack was renewed at 7 p.m. and successfully carried through. The Boers lost a third of their strength, or about 400 men, including their leader, Jan Kock, and the commander of the German Volunteers, Colonel Schiel.

This lucky dash of White's, which re-opened communication with Glencoë, was necessary, but very risky. On the 21st there were hardly 3,000 men left in Ladysmith. If the Free Staters had taken advantage of the situation to attack, and if Viljoen, instead of accompanying the main body to Glencoe, had followed his advance guard to Elandslaagte, the English force in Natal would have been on the 22nd or 23rd defeated in three detached bodies, and would doubtless have been annihilated. Even at this period we may trace the want of co-operation, of firm union, and of organised transmission of orders and information in the Boer Army.

Yule's Retreat, 22nd to 25th October, 1899.—White had succeeded by the 22nd in getting his force safely collected in Ladysmith. But the Glencoe detachment was not equally fortunate. In the course of the 21st Yule had received news of the advance of strong columns from the North (Joubert) and from the North-West (Viljoen). Soon after, a heavy fire of artillery from Impati Mountain forced him to shift his camp. Early on the 22nd he attempted to retreat over the pass of Glencoe to Ladysmith, but he here encountered Viljoen, who had already occupied the pass in his rear. But in the night of the 23rd, thanks to the inaction and want of vigilance of the Boers, he succeeded in a desperate attempt to escape. Leaving his wounded and baggage behind, he made a flank march in the night across Joubert's and Lucas Meyer's front, to Helpmakaar and Beith. A second night march brought him to Waschbank Spruit, which he reached early on the 24th. On this day White made a feeble and fruitless attempt to join hands with Yule by way of Rietfontein. It was not till the 25th that Yule's troops, exhausted and demoralised, reached Ladysmith. They were so exhausted, that White found himself compelled either to abandon these 4,000 men or to remain in Ladysmith against his better military instincts; and this in spite of the danger of being cut off from the sea and from the reinforcements advancing from Durban, and of being shut up in Ladysmith.

The Completion of the Cordon round Ladysmith, and the First Attempt to break out on 30th October, 1899.—And this danger was realised. An attempt to break out, made by the whole strength of the garrison on October 30th, after four days' rest, failed. By the 27th the Transvaalers and Free Staters had effected a junction north of Ladysmith, and by the evening of the 29th a cordon had been drawn round the west, north, and east of Ladysmith. To the south a small Boer detachment had occupied

the crossing of the Tugela at Colenso. The road to Colenso itself was still clear, and formed the natural line of retreat of the English force. But for seven miles this road runs close to the deep gorge of the Klip River, and is in full view of and commanded by the heights on the east, Lombard's Kop, Isimbulana, and so on. Already on the 29th Boer posts and even artillery had been reported on these hills, and before he could think of retreating by this road White was obliged to clear the hills which threatened it. On the night of the 30th he advanced in three unequal columns on Isimbulana, Lombard's Kop, and Farquhar's House. He left in Ladysmith only the obligatory garrison told off to the field works. It was in the left column, which had no cavalry, and which soon lost touch with the other columns, that the stampede of mules took place. Next morning the whole column, consisting of 10½ companies and one mountain battery, was captured by the Boers at Nicholson's Nek. The right and centre columns found the heights so strong and so well defended by heavy artillery, that White abandoned the attack and withdrew into the town.

In the next few days the Boers advanced their outposts closer to the town, and crowned with their siege guns the ring of heights which surrounds Ladysmith at a distance of three to five miles. They showed a surprising want of energy and activity. The railway to Durban was still open, and several troop trains, one bringing heavy naval guns, arrived in Ladysmith unmolested. As late as the 2nd November, a train conveying General French, afterwards well known to fame, was able to get through the Boer lines to Durban. The telegraph line was working up to 2.30 p.m. on the same day, and it was not till then, four days after the repulse of the sortie, that Ladysmith was completely shut in. But by means of a well-organised pigeon post and balloon post, and later by heliograph, White was able to keep up communication with the outer world.

Second Attempt to break out, 3rd November, 1899. — On the 3rd November, a part of the garrison under Colonel Murray broke through the thin line of Boers, crossed the Modder River, took the road to the east towards Weenen, and thence escaped in a southerly direction. *From this day till the 28th February, 1900, for four long months, the cordon round Ladysmith remained unbroken.*

It must be left to White himself to tell us whether he was henceforward too weak to attempt to break out, or whether he could not make up his mind to abandon the great mass of stores collected in the provisionally fortified town. But this case furnishes another instance of the magnetic attraction which walled defences have for dispirited generals and demoralised troops.

Mafeking and Kimberley.—Even before White had been shut up in Ladysmith, the small English garrisons in Mafeking and Kimberley had been surrounded by Boer commandoes in superior force. Mafeking had been besieged since the 13th, Kimberley since the 15th October.

Rising of the Afrikanders.—The first successes of the Boers caused a ferment of sedition in every place in South Africa where the Dutch

element was represented. But in spite of the widespread and persistent efforts of organised agitators, of the Afrikander Bond, and of the fact that the majority of the Cape Ministry and Parliament favoured the Boers, there was no organised rebellion. Fortunately for the English, the Cape Boers, in their native sluggishness, allowed the critical moment for revolt to pass by. It was only here and there, at places far apart, that the flames of rebellion actually broke out.

PART V.

The English Plan of Campaign.—By the middle of September the 1st Army Corps had received orders to mobilise, and Sir Redvers Buller had been appointed to command in South Africa. It was not till the 20th October that the mobilised 1st Army Corps began to embark, and on the 9th November the first transport reached Cape Town. Buller had arrived on the 31st October.

Originally, the English plan of campaign was simple and sensible. The troops were to land by divisions at the Cape, Port Elizabeth, and East London, the termini of the three railways of Cape Colony. They were to concentrate by means of these railways south of the Orange River, and then to advance in three connected columns into the Orange Free State. The railway was to surmount the difficulties offered by the steps of the Karroo, after which the open plains of the Free State presented no obstacle. In a few days the army was expected to reach Bloemfontein. This would either break up the alliance between the Boer States, or at least would transfer the theatre of war from Natal—a country favourable to the Boers—to the flat country between the Orange River and the Vaal, where the ground was unsuited to their method of fighting.

Unfortunately Buller was not the man to defy external influences, and to carry through with steadfast resolution a course once recognised to be the right one. The shutting up of White in Ladysmith, and still more of the Diamond King (Cecil Rhodes) in Kimberley, together with the seditious outbreaks in the north of Cape Colony, were sufficient to induce Buller to upset the whole plan of campaign.

If he had considered the matter calmly and quietly, he must have recognised it as a special advantage that, owing to White, a great part of the enemy's force was locked up in Natal, and that this would leave his hands so much the freer to carry out the concentration on the Orange River and the invasion of the Free State. But he fell into the mistake made by the old Austrian school of covering all his weak points at once, and trying to carry out several tasks with divided forces at the same time. The relief of White and of Rhodes, the covering of the Cape railways and the suppression of the Afrikander revolt—all these matters appeared to him equally urgent and equally important.

At first, when he went to Durban himself and ordered the first transports to the same place, it was possible to credit him with the idea of deciding the fortune of the campaign in Natal, in spite of the

difficulties of the ground, since it was in Natal that the enemy's main strength was located. But if this was his idea, he should have remembered that one can never be too strong in a decisive encounter, and should have concentrated his whole force in Natal. Instead of doing so he only assembled about a third of his force in Natal; the rest were scattered about Kimberley and Stormberg.

With disorderly haste, in wild confusion, just as the ships came in, the troops were distributed between these three widely distant theatres of war. The divisional and brigade units, so carefully fitted together on the mobilisation of the 1st Army Corps, were broken up and scattered as soon as they arrived on African soil.[1] A serious blunder in the arrangements for transporting the troops was now brought to light. The cavalry and artillery were the last to embark. Besides the tactical consequences such as absence of reconnoitring, the most serious result of this error was that the horses had no time to recover after the voyage and to become acclimatised; and in consequence a large number of animals became unfit for service as soon as they were called upon for any exertion. A nation like England, experienced in the conduct of Colonial Wars, should not have made such a mistake. Later events thoroughly confirmed Moltke's dictum, that a mistake in concentrating troops at the outset often takes a whole campaign to rectify.

In other respects, the landing and railway transport of the troops to the three centres of action, in the latter half of November, was carried out remarkably smartly. We must remember that these narrow single lines will only accommodate five to seven trains of 30 to 50 pair of wheels each per 24 hours; that coal trains and supply trains have to be fitted in between the troop trains; that some of the distances traversed were very great (for instance, Cape Town to Orange River Station, 540 miles); and that, on account of the neighbourhood of the enemy and the disturbed state of the population, special measures of precaution were necessary. Taking the above into consideration, great credit is due to the organising staff. The Supply Department, under Colonel Richardson, was managed with energy and foresight. A few complaints were to be heard, but this was unavoidable owing to the hurried manner in which the operations were conducted and to the frequent changes of plan. It is to be wondered at that the many orders and counter-orders did not lead to disorder.

On and after the 20th November the following forces were ready for action:—

1. General Clery with 16,000 men echeloned along the railway from Durban to Pietermaritzburg and Estcourt.
2. General Gatacre with 4,000 men to protect the railway and to suppress rebellion at Queenstown.
3. General French with 5,000 men to protect the railway between the junctions of Naauwpoort and De Aar.

[1] On this account, it would be useless to give the detail of troops composing the 1st Army Corps.

4. General Lord Methuen with 10,000 men at Orange River Station and to the south of it.
5. Along the railway from De Aar to Cape Town, 4,000 men, besides Volunteers to guard the line of communications.

The Commander-in-Chief, General Buller, had established his headquarters at Pietermaritzburg.

The opposing forces were as follows :—

In Natal.—16,000 English against about 25,000 Boers, of whom some 10,000 were tied down to the siege of Ladysmith (garrison about 8,000 men).

In Northern Cape Colony.—9,000 English against 7,000 Boers, plus an indefinite number of rebels.

To the South of Kimberley.—10,000 English against 6,000 Boers, of whom a portion must be deducted for the siege of Kimberley.

Thus the English had only a superiority of force at Kimberley, which shows that the English officials responsible for the conduct of the war were insisting more and more urgently upon the relief of Kimberley as the first and most important operation to be undertaken. This is corroborated by the fact that the best troops—the Guards and the Highlanders—were sent to this point. It is and will be a lasting disgrace to England, that an English Commander-in-Chief should have subordinated such military judgment as he possessed to the wishes of a Stock Exchange clique.

(*To be continued.*)

THE EXECUTION OF THE FIELD DEFENCES OF LONDON.

By Major H. A. BETHELL, R.F.A.

THIS article does not deal with the distribution and location of the defences of London, nor yet with the details of the field works of which they would be composed, but with a peace-time organisation which would enable those defences, wherever and whatever they may be, to be quickly built, armed, and manned in case of war.

The location and the details of the positions which would be prepared for the defence of London are confidential matters beyond the ken of the writer of this article. In the instruction given, however, to officers in connection with field defences generally, much is taught as regards the actual form, shape, and size of each kind of work, the number of men, tools, and the *matériel* required for the execution of the work and the time in which each work can be completed. These *data* hold good for each work considered as a unit of work. If, at any particular place selected as a site for a field redoubt, the regulation number of men and tools, and the specified amount of *matériel* are forthcoming, the redoubt will be built and completed, ready for occupation in the time specified in the *data*. But when we have to deal with the rapid conversion of a large tract of country into an extensive prepared position, the reliability of the *data* vanishes altogether, unless, beforehand, there has been prepared an organisation providing that at any given moment men, tools, and *matériel* shall be forthcoming where they are required.

In the early part of the war of 1870-71 it was this problem of the rapid preparation of extensive positions that had to be solved for the defence of Paris after the initial defeats of the French Army; again, later on, it appears in the construction of the defences round Orleans, November, 1870. In Ducrot's "La Défense de Paris" and in the "Enquête Parlementaire" most valuable information on these matters is given, but a course of study embracing these works is rather too severe for the ordinary reader. Whether an organisation intended to deal with such matters exists already in our own War Office I do not know, but I have ventured to offer in this paper and to submit for consideration a sketch of the organisation which seems suitable to the purpose.

There is no idea of surrounding London with a ring of entrenchments, still less of making it into a fortified city like Paris.

The occupation of London by a foreign army would be tantamount to the subjugation of the British Empire. For this and other reasons the objective of an invading force would be London alone, and whether the enemy landed in the South, East, or West, he would march straight on London. The defending army would operate between London and the sea, with the object of driving the invader back on the coast; or, failing this, of holding him at bay till his sea communications could be cut and the whole armed strength of the nation concentrated to crush him.

In these operations the defending general would derive immense assistance from the existence of strong lines of entrenchments between London and the coast. Such lines would not constrain him to a defensive policy, but would enable him to act more boldly on the offensive.

The defences would, it is assumed, be field works of the usual type, such as fortified villages, woods, redoubts, and lines of entrenchments. Broadly speaking, the defences would consist of four lines:—

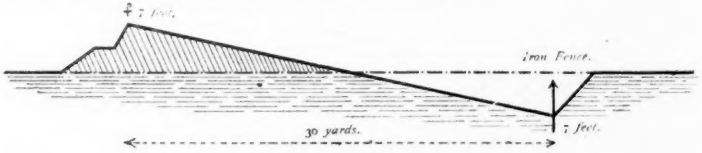
a. A strong firing line.

b. Covered positions in rear, in which the defending forces can remain safely during the bombardment, till called up to resist the actual attack.

c. Outworks, such as scattered rifle-pits and small trenches, to prevent the enemy from reconnoitring close up to the main works.

d. Retrenchments, to prevent the enemy from holding any portion of the front line that he may succeed in carrying.

As an illustration of the type of earthworks which would have to be constructed, the Twydall parapet may be briefly described. As shown in the illustration, it consists of a low parapet, with the superior slope continued to the bottom of the ditch. At the foot of the escarp is an unclimbable iron fence; or, failing this, a wire entanglement. This kind of parapet is difficult to damage by artillery fire, and is almost impregnable by direct assault; but it requires a great deal of wheelbarrow work, and the iron fencing is not always obtainable.



SECTION OF TWYDALL PARAPET.

Next as to the organisation which will enable these works to be quickly constructed on emergency.

It is proposed to institute a new department, that of the defence of London.

This department is to consist of one director (preferably a colonel, R.E.) and four assistants, captains and subalterns, the latter appointed for one year at a time. For the first year eight assistants would be

required, and, in the field only, a detachment of R.E. surveyors. There would be no clerks in the department, original clerical work being done by the officers and the ordinary copying by typewriting offices.

The annual cost of the department would be :—

Staff pay	£800
Travelling and travelling allowance	800
Stationery and copying	250
Office rent	150
Total	£2,000

In addition, about £2,000 would be required to cover the extra expenses of the first year.

The work of the department would be :—

a. To construct detailed maps and diagrams of the works approved by the Defence Committee.

b. To draw up instructions for the officers detailed to superintend the execution of these works.

c. To arrange for the provision of the necessary labour, materials, and armaments on the spot.

d. To arrange for the lodging and feeding of the construction gangs.

Besides the headquarter staff of the department, it would be necessary to detail in peace-time the officers required to superintend the execution of the defence works. Theoretically it would be possible so to elaborate written instructions as to enable an officer detailed at an hour's notice to take over charge of a section of the defences and to carry the work through without a check. Practically, this would be trying the officer rather high, and it is not every officer detailed at haphazard that would prove equal to the occasion. It is, therefore, desirable to select the superintending officers of the various sections and sub-sections beforehand, and to give them every opportunity both of learning their duties and of cultivating a minute and accurate knowledge of the ground of which they will be in charge.

The field of selection must necessarily be limited to such officers as will be available for special duty on the outbreak of war.

No senior regimental officers will be available, but a certain number of subalterns could be spared as assistant superintendents. Owing to frequent transfers and change of stations it will hardly be possible to allot these subalterns beforehand to sections of the works. They will have to be detailed when actually required.

The officers in charge of sections, then, will have to be selected from the staff and departmental officers. It is certain that no officers could be spared from the Head Quarter Staff of the Army on the outbreak of war; neither would any G.O.C. division care to lend his A.A.G. or brigade-major during the first days of mobilisation. The only staff officers available from a district will be the D.A.A.G. for Instruction and a small number of R.E. officers. As regards the latter, the junior officers

change their stations so frequently that it will not be possible to tell them off beforehand to particular districts. But the colonels and lieut.-colonels hold five years' appointments, and from the nature of their training and employment will be specially valuable as section and sub-section officers on the defences.

Another set of officers who will become available on the outbreak of war are the staff and military professors at the various military colleges. These officers would have plenty of opportunity in peace-time of rendering themselves familiar with the duties which, as sub-section officers on the defences, they would be called upon to perform; the more so as the colleges are all within easy reach of the districts to be fortified.

Officers so selected would receive no increase of pay, but would get travelling allowance at, say, £1 per visit to enable them to study the ground. This item is included in the £800 travelling allowance already estimated for.

Let us suppose the department constituted, the officers of the construction staff selected, and the whole of the preliminary work completed. The best way to form an idea of the functions of the department will be to consider the actual operation of the system on the outbreak of war, selecting as the locality one of the possible sites for a position.

Thus, supposing the chief of the department receives the order "Construct and arm section K of the defences." He unlocks pigeon-hole K, takes out a bundle of letters and telegrams ready stamped, and passes them through a perforating date stamp. An assistant officer takes these in a hansom to the General Post Office, and hands them in together with two copies of an order signed by the Postmaster-General, directing that these letters and telegrams are to have precedence of all other business.

We will now consider the effect of this action.

Suppose that section K extends from Guildford to Basingstoke, and Sub-section 1 of Section K from Guildford to Puttenham, about four miles.

At 11 o'clock on Monday morning Major Brown, at the Staff College, Camberley, receives a telegram:—

> "Proceed to Guildford at once to take charge of sub-section of defences. Stop. You will receive your orders at Guildford police-station. Stop. Party from Royal Blankshires and from R.E., Aldershot, will meet you at White Hart Hotel. Stop. Letter confirming this follows through regular channel. Stop.—ADULATORY."

Major Brown leaves by the 12.28 train from Blackwater with his servant and baggage, leaving his horse to follow by road. He arrives at Guildford at 1.4 p.m. At the police-station he receives from the superintendent (who has received a wire from Defluxion[1]) a sealed packet. Inside this he finds:—

[1] "Defluxion" is to be the telegraphic address of O.C. Defences of London.

a. An order from the Chief Commissioner of Police directing the police to afford him every assistance.

b. An Order in Council, signed by the Lord President, empowering him to trespass on private ground and generally to commandeer private property; and copies of this order to serve upon proprietors along the line of defences.

c. Authority to enrol special constables as required.

d. Billeting orders for himself and party.

e. An order on the local branch of the London and South-Western Bank to deliver a certain despatch-box to him.

f. Key of the said despatch-box.

Major Brown next proceeds to get his despatch-box. He finds it to contain :—

a. A credit on the London and South-Western Bank for £10,000.

b. Cash book, cheque book, office forms, and stationery.

c. Book of instructions.

d. Duplicate sets of working drawings of the defences from Guildford to Puttenham, on linen-backed paper.

e. Three copies of 12-inch ordnance map, Guildford to Puttenham, with the defences marked on it.

f. Copies of contracts entered into for the supply of labour, implements, materials, and food.

g. Six copies of the "Manual of Field Fortification."

Having opened an account with the bank, Major Brown goes to the White Hart Hotel, where he finds that quarters for himself and his party have been ordered by telegram from Defluxion, and that his lunch is ready. Two subalterns, 4 non-commissioned officers, and 4 privates from the Royal Blankshires at Woking have arrived by the 12.52 train; also a detachment of 24 sappers have arrived from Aldershot with tapes, measuring rods, and banderols, and are now eating their dinner.

At 3 p.m. several gentlemen are announced to see him. In the commercial room he meets Messrs. A to K, local contractors, builders, and dealers, who have previously agreed to supply a certain number of men, implements, and carts. The rates of pay (fixed beforehand) are sufficiently high to ensure ready compliance with contract requirements. He arranges with these contractors, according to his book of instructions, the places and time at which their men and supplies will be required next morning, and he signs the necessary cheques for cash advances.

At 4 p.m. (his men having already started at 2.30), Major Brown proceeds to the line of defences. He tells off officers, non-commissioned officers and men to the different sections, provides them with plans and working drawings, and leaves them to mark out the details of the defences. Supposing that the light lasts till 7 p.m., he should get the alignment and principal details marked out before dark.

Next morning he sends his subalterns to superintend the work, while he remains at headquarters at the White Hart. On opening his letters and telegrams, he finds:—

a. A letter from Colonel Smith, R.E., to say that he has been appointed to the charge of Section K (Guildford to Basingstoke) of the defences, and will arrive to inspect Major Brown's sub-section next morning.

b. Letters from Messrs. X, Y, and Z, of Birmingham, Sheffield, and Leeds, to say that part of the consignment of iron fencing ordered is already on the way by passenger train, and that the remainder is in hand.

c. Letter from Woolwich to say that four heavy and twelve light Q.F. guns and twelve machine guns will arrive the same afternoon, with a party of gunners to mount them.

d. From Messrs. Melhuish and others, notifying despatch of 400 felling axes, 800 billhooks, 100 crowbars, and other tools.

e. From Defluxion, to say that 24 engineers and land-surveyors have been engaged as sub-division superintendents, and will arrive by midday.

f. From Chatham, to say that a steam trenching plough is on its way.

g. From Messrs. P, Q, and R, labour contractors, announcing that 6,000 navvies (in gangs of 12), with spades, picks, and barrows will arrive the same evening.

h. From Messrs. Edgington, to say that tents and blankets for 3,000 men have been despatched. (The rest of the workmen to be quartered in Ash Manor, Ivy Lodge, Tunstall Towers, etc., cleared for the purpose as per book of instructions.)

i. From Lipton, Dickeson, and the Canteen and Mess Society, notifying despatch of provision wagons and canteen tents for the 6,000 workmen.

(It may here be remarked that an ordinary English country district would not supply a sufficient number of men to complete the defences in, say, a week's time. No system of compulsory enrolment of labour would be possible in England, even in war-time. Supposing the rate of pay to be 5s. a day and free rations, this would attract at short notice, perhaps, half of the agricultural labourers living within three miles. Indoor hands—bakers, linen-drapers, printers, and so on—would not come forward, or would be useless if they did. Of the 2,000 men per mile required to complete the defence works in seven days' time, some 500 per mile might be obtainable on the spot. The rest would have to be imported from London and other labour centres. It need hardly be said that in the early days of mobilisation no troops would be available for digging trenches.)

The contents of these letters afford plenty of employment for Major Brown and for the shorthand clerk and typewriter who have

arrived to assist him. The men and supplies arriving have to be met at the station and guided to their places on the lines. Carts are required to convey the tools and stores, and teams to haul the guns. Tents have to be pitched, workmen's quarters and kitchens prepared, and indignant householders pacified. The irruption into the country of 6,000 men from the East End of London will necessitate the enrolment of special constables to protect the property of the inhabitants.

It is not till 4 p.m. that Major Brown finds time to ride round the defences. As was to be expected, 500 men per mile have made no great impression on the work. They have, however, completed the marking out, spitlocked the trenches, opened up lateral communications, and partly cleared the front.

By sunset on Tuesday, the second day, Major Brown has the whole of his men and supplies on the spot, and his 24 surveyors, each with a sapper under him, in charge of the 24 sub-divisions into which the line is divided. (The distance from Guildford to Puttenham being 8,000 yards in a straight line, this makes each sub-division about 350 yards long.) The men have been told off to their sub-divisions, and everything is ready to begin work next morning.

On Wednesday morning, when Colonel Smith, R.E., in charge of the whole of Section K, comes round to inspect, he finds the works in full swing.

Henceforward, if Major Brown and his subordinates are patient and energetic, all should go smoothly. Supposing the weather to be fine, Saturday evening will find the trenches ready for occupation. A certain amount of revetting has still to be done, and some of the iron fencing has not yet arrived. But the work can be completed by the local gangs, and Major Brown is able to send his 6,000 men back to London, to the great relief of the inhabitants.

Monday is devoted to cleaning the workmen's camps, revetting, and preparing quarters for the garrison. By Monday evening the work is practically done, and, with the exception of a fencing gang and a carpenters' gang putting up finger-posts and sign-boards, the remaining labourers are dismissed.

The manning of the defences need not here be considered in detail. They will not be occupied till the last moment, as the troops will be more useful in the field, in touch with the enemy. Some of the regiments held in reserve might, however, be stationed in the defences in order to acquire familiarity with the communications, so that when the lines are manned at least some of the garrison will know their way about.

The rate of progress of the work of construction must necessarily vary with local conditions, but for ordinary close country in the South of England the above estimate will be found approximately correct. Given fine weather, perfect preliminary organisation, and capable officers in charge, we may expect to be able to construct a strong line of defences, of indefinite length, in about a week's time from the order to begin.

The foregoing description of the details of the work is slight and incomplete, but it will serve to show the difficulties which would attend

the construction of a line of defences without previous preparation. It would be easy to describe the utter confusion which would arise if the details had not been carefully thought out beforehand. Instead of a week, the defences would probably take three weeks to complete, and would be badly done at that; and instead of £4,000 per mile (not including compensation for damage and trespass) the cost would be twice as much.

Mr. Bright once said in the House of Commons that the Sussex labourers, with their spades, could in a single day throw up entrenchments sufficient to stop an invading army. He was mistaken; but not more so than a Secretary of State would be if he expected field works to rise from the ground at a wave of his pen without any previous organisation.

The expense to the State of providing this organisation would be about £2,000 a year. Who will say that this is too much to pay for the insurance of London?

THE ELSWICK BATTERY IN SOUTH AFRICA.

By Lieutenant OWEN JONES, R.N.R.,

Chief Officer P. & O. Company, and late Sergeant in the Elswick Battery.

BEING by profession a sailor, and having served for over fifteen months in the Elswick Battery during the war in South Africa, I think that some of my experiences during that time may be of interest to, at any rate, nautical readers.

I enlisted as a gunner in the Elswick Battery in January, 1900. The following two months I am endeavouring to forget, and will, therefore, say little about, merely remarking that they were the most disagreeable I ever passed. In common, no doubt, with hundreds of other gentlemen who enlisted in the Yeomanry and various corps, I saw life from the private soldier's point of view: first, when billeted at a fifth-rate inn, where I messed in the kitchen with the maids; secondly, when an occupant of a barrack-room, with its iron bedsteads and whitewashed walls; and, thirdly, when one of 1,200, lost in a crowd on the troop-deck of a hired transport. The last experience was, to my mind, by far the most trying; since that time I have lived and slept on the open veldt without tents for months together; but, with all the hardships entailed by wet weather and short rations, I would ten times rather go through them all again than make another passage as a Tommy in a trooper.

At Cape Town we first saw our guns, which had preceded us by cargo steamer—naval 12-pounders of the 12-cwt. pattern, mounted on a new and experimental field mounting, the wheels being identical and interchangeable with those used by the horse and field artillery.

The particular guns supplied to us had been built for a Japanese man-of-war at the Elswick Works, and were only handed over to us at the last moment in place of the ordinary 15-pounder field guns, with which the battery had previously been manned; they were sighted for 8,000 yards range, and the full charge was always used, viz., 1 lb. 15 oz. cordite, size 15. The recoil cylinder was underneath the gun and above the axle; this raised the gun, and, consequently, the centre of gravity, very high, and though we never actually had an upset, we had some very narrow shaves; and I think it would have been an improvement, and the gun would have been safer, if the axle had been arranged to pass between the cylinder and the gun, or else, perhaps, had the cylinder been on the top of the gun.

No hitch ever occurred with the recoil mechanism, in fact there is nothing about it to go wrong, the only thing necessary being to see that the cylinder is full before marching each morning; when our supply of oil ran out, water was used in its place with equally good results, and I think the system might be adopted with advantage with all field guns, one good reason in its favour being that the amount of dust thrown up on firing and consequent betrayal of position is much lessened, the whole scarcely moving an inch after the first shot. The elevating gear was fitted on the left of the gun, and could be worked by the gun-layer without removing his eye from the telescopic sight.

It was found towards the end of the campaign that the breech almost invariably flew open on firing; as it did not happen at the beginning, I imagine this was due to wear and tear of the breech mechanism—no accident occurred from this cause; the only trouble experienced was in the frequent miss-fires which occurred during February and March, when it rained nearly every day—they were due, I think, partly to the wet weather, the tubes getting damp, and partly to our getting a bad batch of tubes, also in some measure to the springs of the strikers becoming weak. The tubes were some of them certainly much more sensitive than others; in one case the "cease fire" had been ordered, the gun was loaded, breech closed, but the striker not cocked; without thinking what I was doing, I placed my hand on the striker, and I suppose unconsciously put some pressure on it, for, before I knew any more, the gun had fired, and I was flat on my back in rear. In other cases the tube was often found to have been struck after a miss-fire.

Percussion firing was always adopted. The guns came out from England fitted for both electric and percussion firing, but the former was never used, and in fact the electric gear was left behind at the base. It would, I think, have been much better if we had pinned our faith to electric firing, for which the strikers are primarily intended, and only used the percussion gear as an alternative. There seemed to be a dread of electricity, and perhaps with untrained men it was justifiable. I noticed that the naval 12-pounders on the Percy Scott mounting, which had been used by the Naval Brigade in the first part of the war, and always fired by them by electricity, were when handed over to the artillery invariably fired by percussion. If these guns are to be fired by percussion in the field a good supply of spare striker springs ought certainly to be carried, and all strikers ought to be frequently examined and kept perfectly clean; the breech ought to be kept covered too when on the march; an oat-sack answered the purpose very well with us, and was easily slipped on and off.

The weight of the ammunition is, of course, one of the chief objections to the use of these guns in the field, the brass cylinder which contains the charge weighing nearly three times as much as the charge itself. I do not see what objection there could be to using the same cylinders over and over again, only carrying a sufficient number to fill the gun limber and wagon; these could be filled up with cordite carried in ready made-up charges. This would not only reduce

the weight, but also the cost, for our invariable practice was to leave the cylinders on the ground after firing, it not being thought worth while to carry them about the country until an ordnance store was reached, where they could be returned. All cylinders were supplied fitted with electric primers; these were also thrown away, and they no doubt cost something. If the cylinders were to be refilled instead of being only used once, a great deal of labour would be saved in unscrewing and screwing in adaptors, etc.—no small matter after a long day's march, when camp perhaps is not reached till after dark, possibly raining too, and the certainty that every man wants to get to his cooking or his blankets, and has no heart for any work not absolutely necessary.

Our gun limbers carried 24 and the wagons 54 rounds each, making a total of 78 rounds per gun, ready fused and fitted; the limber boxes suffered considerably from wear and tear, and the lids became warped and let the rain in; as a consequence we had one or two hang-fires during the wet weather, the charge not exploding until 5 or 10 seconds after the lanyard had been pulled; this in one case at least was near causing an accident, through the hang-fire being mistaken for a miss-fire. A certain proportion of common shell was carried in each limber box for ranging shots, the bursts of this shell being found much more easy to observe than the percussion shrapnel at long ranges. The internal fittings of our limber boxes for holding the projectiles in their place were not so good as they might have been; we found that with the constant jolting on the march the beckets of the fuse pins got cut through, and in some cases the heads of the pins knocked off, making them very difficult to pull out even with a pair of pliers.

A range-finder of the Bar and Stroud pattern was brought out by the battery from England, but as it got damaged on the voyage it was not taken to the front; the want of it was often felt in the field, and much ammunition was wasted in finding ranges. As six long-range guns are not likely to be always kept together on service, there ought to be at least one range-finder to every two guns, also a good observing telescope and tripod to each gun; it must so often happen that shots at 8,000 yards range which, when viewed with the ordinary field glasses, appear to hit their mark, would, if observed through a good telescope, be found to be some yards to the left or right.

We began the campaign with eight horses to each gun and six to each wagon. These were sufficient with fresh horses and good roads, or when attached to an infantry column; but when after the first six months the battery was split up and single guns were attached to different cavalry columns, it was found that ten horses to each gun answered much better, and with my particular gun we took the horses out of the wagon altogether, substituting mules in their place; this enabled us to change some of the horses in the gun team each day. The team of ten mules in the ammunition wagon were a great success, although there was a slight difficulty sometimes in getting them watered on the march. To outspan and then inspan them again would have taken up too much time, and it was found the best plan to unlimber the wagon body and drive down as

near to the water as possible with the limber, and then water with buckets. Only two mules were lost between January and May in the march under General French from Johannesburg into Swaziland and back, although for about six weeks they got no corn whatever, and only very occasionally a few pounds of mealies. Under fire, too, they behaved perfectly so long as their heads were turned towards the firing, and took no more notice of it than did their drivers, two Basuto boys, to whom, on seeing a shell drop within a few feet of them one day, I said, "How do you like this?" the reply, with a grin from ear to ear, was "Fine, sir, fine."

On our first march the horses were harnessed just as the Regular Field Artillery horses are in England. By degrees we dropped everything not absolutely necessary, such as saddles on off horses, breechings and breast breechings on all horses except the wheelers; the drivers' kits too were carried on the store wagon instead of on the horses, so that an off horse carried nothing but his collar and traces, a near horse only having a saddle in addition. Our drivers being nearly all untrained men to begin with, we lost a great many more horses in the first than we did in the second half of the campaign, when they had learnt to make each pair of horses do their fair share of work, instead of one willing pair pulling the whole gun, as was so often the case in the beginning. The weight of the gun and limber behind the team was about 43 cwt.

The detachment consisted of 9 numbers: the sergeant mounted, 2 and 3 on the gun limber, and the remainder on the wagon; towards the end as many of the gunners as possible were mounted on country ponies, in order to lessen the weight for the mules in the ammunition wagon. Our practice was to travel with the gun loaded except for the tube, so that the sergeant, together with numbers 2 and 3, were able to bring the gun into action and fire the first shot, while the other numbers were bringing up ammunition from the wagon or limber, as the case might be.

One thing which I think the Elswick Battery has clearly proved is that untrained men may be of use in time of war in the artillery as well as in the other branches of the Service. None of our men had ever seen the naval 12-pounder fired before they landed in South Africa; being most of them connected with the Elswick Works, they had probably seen guns of the same pattern and had perhaps helped to make them, or at any rate parts of them; but few, if any, could have ever drilled with them. Not much training is required for running up with ammunition from the wagon to the gun, which is the sole duty of four numbers of the detachment, and the duties of the remaining five are very simple and can be learnt in a very short time.

A trained driver is of course worth half a dozen untrained ones; but any man who has been used to horses can very soon learn to be a driver, and if he is fond of horses and takes an interest in his job will get more work out of his pair, and besides this make them last longer than the same pair would in the hands of a careless man, however long a training he may have had. It frequently happened that when we were short of drivers

on the march, gunners had to be put up in their place. Many of these did remarkably well, and it is my firm opinion that during the latter half of the campaign, when our men had gained experience, there was very little to choose between them and the Regular Horse and Field Artillery drivers.

Whether the Elswick guns have been a success in the field or not, I will leave to others better able to judge; but this I will say, that I never saw an Elswick gun or wagon blocking a drift; and although I suppose each of the guns must have trekked considerably over 2,000 miles through some of the worst country in the Transvaal, both in the dry and wet season, I never saw any one of them cause a moment's delay, though brigaded for the greater part of the time with cavalry and horse artillery.

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The detachment consisted of 9 numbers: the sergeant mounted, 2 and 3 on the gun limber, and the remainder on the wagon; towards the end as many of the gunners as possible were mounted on country ponies, in order to lessen the weight for the mules in the ammunition wagon. Our practice was to travel with the gun loaded except for the tube, so that the sergeant, together with numbers 2 and 3, were able to bring the gun into action and fire the first shot, while the other numbers were bringing up ammunition from the wagon or limber, as the case might be.

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NAVAL NOTES.

HOME.—The following are the principal appointments which have been made: Captains—The Hon. H. Lambton, C.B., to be Commodore of the 2nd Class in command of Royal Yachts: H.S.H. Prince Louis of Battenberg, G.C.B., G.C.V.O., to "Implacable." Commanders—G. Martin to "Brisk": C. E. Monro to "Dart."

Captain the Hon. H. Lambton, C.B., has been appointed a Commodore of the 2nd Class, and hoisted his broad pennant on board the new "Victoria and Albert," which was formally commissioned on the 23rd ult. at Portsmouth. The first-class battle-ship "Albion" left Sheerness on the 11th ult. for China. The third-class cruiser "Racoon," from the East Indies, paid off at Sheerness on the 6th ult.; the first-class cruiser "Blake," which lately returned from Australia with the relieved crew of the "Royal Arthur," paid off on the 15th ult. at Devonport; and the first-class torpedo-gunboat "Salamander," from the Mediterranean, paid off on the 17th ult. also at Devonport. The first-class gun-boat "Widgeon" arrived at Devonport on the 22nd ult. from the Cape. The mobilisation for the manœuvres commenced on the morning of Tuesday, the 16th ult., and was completed the following day, when all the ships left for their respective rendezvous. At 9.30 on the morning of Monday, the 29th ult., war between the two fleets was officially declared.

Prize Firing on the China Station.—Further particulars have reached England of the remarkable scoring made on 8th June at Wei-hai-Wei at the annual prize firing by the cruiser "Terrible," Captain Percy Scott. The target used was of the ordinary service dimensions, but of Captain Scott's pattern, two masts being used instead of three. This change was introduced to obviate the constant repairs to masts. In 1900 the "Terrible" had to replace eleven sticks, whereas this year none were shot away. Although the shooting in the "Terrible" last year was by far the best on the China station both for accuracy and rapidity, it was considered that the loading was too slow. Consequently the guns' crews have since been practised in loading, which has led to a considerable increase in the number of rounds fired and the hits recorded, as the following table will readily show:—

Year.	Guns.	Calibre.	Rounds fired.	Hits.	Hits per minute.
1900	2	9·2-inch	15	9	0·75
	12	6-inch Q.F.	104	80	3·3
1901	2	9·2-inch	22	14	1·1
	12	6-inch Q.F.	128	102	4·2

The extraordinary result of the shooting in 1900 raised some scepticism as to the accuracy of the returns; and, therefore, to remove all doubt this year, the "Terrible" carried five independent umpires instead of two, which is the usual number, and the firing was also watched by Flag Captain Jellicoe, of the "Centurion," and Captain Windham, of the "Isis." The actual time that each gun took to fire was therefore checked by two officers of the "Terrible" and five officers drawn from other ships, while, that there might be no doubt as to the marking, at the end of each run the ship was taken up to the target, when the hits were counted and recorded by the umpires.

A new canvas was put up for each gun, so that on starting, each weapon had a target which had not been perforated. The finest piece of shooting for the day was performed by Taylor and Kewell, who in six minutes fired 12 rounds and put on 9 hits with the after 9·2-inch gun; while so rapid was the firing from the 6-inch Q.F. gun that whereas the average of hits of the fleet is 1·1 round per gun per minute, that of the "Terrible" was 4·2. If we compare the results of last year's prize firing by six ships in the Channel Squadron with the firing by the "Terrible" last year and this year we shall see at a glance what excellent results can be obtained from persistent practice. Each ship carries twelve 6-inch Q.F. guns, and it is to these weapons that the comparison is confined :—

Ships.	Rounds fired.	Number of hits.	Per cent. of hits to rounds fired.	Average hits per gun per minute.
Terrible, 1900	104	80	76·8	3·33
Majestic, 1900	108	52	48·1	2·17
Prince George, 1900 ...	93	52	55·9	2·17
Jupiter, 1900	106	44	41·5	1·83
Magnificent, 1900 ...	87	30	34·5	1·25
Mars, 1900	95	27	28·4	1·13
Hannibal, 1900 ...	79	27	34·2	1·13
Terrible, 1901... ...	128	102	80·0	4·2

Thus the "Terrible," with 12 guns, made 18 more hits than the "Hannibal," "Magnificent," and "Mars" made with 36 guns. Second-class Petty Officer Grounds performed the extraordinary feat of firing 8 rounds in one minute with the 6-inch Q.F. gun and made 8 hits, but against this the practice from one gun was spoiled by defective sights.

Until the present year the record for the 4·7-inch Q.F. gun has been held by the "Scylla," which in 1899 fired 70 rounds with 56 hits, and made 4·6 hits per gun per minute. This has now been beaten by the "Barfleur," with ten guns. She fired 159 rounds and made 14 hits at the rate of 5·7 hits per minute, against an average of 2·3 last year. In this connection it may be mentioned that the present gunnery lieutenant of the "Barfleur" was in the "Scylla" in 1899.

The best scores in the Navy for the last three years are :—1899, "Scylla," 46 per cent. of hits with 6-inch gun, 80 per cent. with 4·7-inch gun ; 1900, "Terrible," 60 per cent. with 9·2-inch guns, 77 per cent. with 6-inch guns ; 1901, "Terrible," 64 per cent. with 9·2-inch guns, 80 per cent. with 6-inch guns. Lieutenant M. Woollcombe, gunnery lieutenant of the "Terrible," in his report on the recent prize firing, says :—"The shooting and loading of the after 9·2-inch are worthy of notice ; in six minutes this gun fired 12 rounds and hit the target nine times, which is 1·5 hits per minute. This is more than the Fleet average for 6-inch Q.F. guns."—*Times.*

The "Hyacinth" and "Minerva" Trials.—The interesting series of trials of the "Hyacinth" with Belleville boilers and "Minerva" with cylindrical boilers having now been completed, a brief summary of the general results may prove of interest.

The trials have been made by request and under the supervision of the Boiler Committee appointed for the purpose of investigating the very important question concerning the wisdom of fitting water-tube boilers on board our war-vessels, and in this capacity their investigations are necessarily directed more particularly toward the Belleville boiler, owing to its having been adopted in our Navy, for large war-vessels, practically to the exclusion of other types. It should be borne in mind that several members of the House of Commons have declared, in the most emphatic manner, their opinion that water-tube boilers generally, for marine purposes, were both dangerous and excessively wasteful of fuel. It was in consequence of these declarations that the

committee was appointed to investigate the truth of such statements and thereby alleviate the anxiety in the public mind. It was desirable to make comparative trials between the cylindrical and Belleville boilers, working, as far as possible, under precisely similar sea-going conditions. It was difficult to make such comparisons, owing to the fact that our Navy does not possess two vessels of any considerable H.P., having precisely similar dimensions, lines, displacement, and propelling machinery, fitted with boilers of the two types in question. The best that could be done in the circumstances was to select two second-class cruisers of practically equal displacement and maximum I.H.P., the one being fitted with Belleville boilers, the other with those of the cylindrical type commonly known as Scotch boilers.

The general dimensions of the two ships and of their machinery are as follows:—The "Hyacinth."—Length, 350 feet; beam, 54 feet; mean draught, 20 feet 6 inches; displacement, 5,600 tons; maximum H.P., 10,000; twin-screw engines of four cylinders; high-pressure cylinders, 26 inches diameter; intermediate-pressure cylinders, 42 inches diameter; low-pressure cylinders (2), 48 inches diameter; stroke, 2 feet 6 inches; revolutions at maximum power, 180 per minute. The "Minerva."—Length, 350 feet; beam, 53 feet 6 inches; mean draught, 20 feet 2 inches; displacement, 5,600 tons; maximum H.P., 9,600; twin-screw engines of three cylinders: high-pressure cylinders 33 inches diameter; intermediate-pressure cylinders, 49 inches diameter; low-pressure cylinders, 74 inches diameter; stroke, 3 feet 3 inches; revolutions at maximum power, 140 per minute.

It will be noted that the vessels and their propelling machinery are not precisely comparable: and consequently so far as speed of ship per I.H.P. or efficiency of the engines are concerned, no heed need be taken of the results of the trials. The trials have been carried out for the purpose of comparing, as far as practicable, the efficiency of the two types of boilers from two points of view—first, as producers of steam from a given weight of coal, in other words, coal consumption; secondly, their capacity for producing an ample and constant supply of steam for a long run at maximum speed, having no special regard to economy of fuel. Those who have so bitterly criticised the adoption of the Belleville boilers in our Navy have laid special emphasis upon alleged excessive coal consumption, and in the second place they have expressed their conviction that it would be impossible to maintain a high speed for any considerable period with these boilers.

The trials having now been completed, a brief summary of the principal results will be interesting to show whether the confident assertions that the strength of our Navy has been jeopardised by the introduction of these boilers have, or have not, any foundation.

First coal-consumption trial, 24 hours' duration, 2,000-H.P.:—

Ship.	Mean I.H.P.	Actual evaporation of water per lb. of coal.
Hyacinth	2,053	9·69
Minerva	2,142	8·54

Result: 13·4 per cent. in favour of "Hyacinth's" boilers.

Second coal-consumption trial, 24 hours' duration, 5,000-H.P.:—

Ship.	Mean I.H.P.	Actual evaporation of water per lb. of coal.
Hyacinth	4,992	9·41
Minerva	5,155	8·87

Result: 6 per cent. in favour of "Hyacinth's" boilers.

Third coal-consumption trial, 12 hours' duration for "Hyacinth," and 8 hours for "Minerva," 8,000-H.P. :—

Ship.	Mean I.H.P.	Actual evaporation of water per lb. of coal.
Hyacinth (12 hours)	8,105	9·89
Minerva (8 hours)	8,114	8·19

Result : 20·7 per cent. in favour of "Hyacinth's" boilers.

Fourth coal-consumption trial, 8 hours' duration :—

The "Hyacinth" was tried for 8 hours at a maximum power of 10,000-H.P., but no trial was made of the "Minerva" at full power, as it was considered undesirable to force the cylindrical boilers to their original specified maximum power of 9,600. The mean I.H.P. for 8 hours in the "Hyacinth" was 10,181, and the actual evaporation of water per lb. of coal during that period was 8·8, showing that at the maximum power of over 10,000 the "Hyacinth" boilers were doing better duty per pound of coal than the "Minerva" cylindrical boilers did at 8,000-H.P., the latter having evaporated only 8·19 of water per pound of coal at the lower power.

After these trials certain modifications were made in the boilers of the "Minerva," and upon trial, with half the boilers, burning coal at the rate equivalent to that consumed upon the 8,000-I.H.P. trial, the evaporation per pound of coal was found to be about 9 per cent. better, consequently in comparing the results of the third coal-consumption trial it would perhaps be fair to place 9 per cent. to the credit of the "Minerva."

The vessels were now prepared for the last of this series of trials, which consisted of a run from Plymouth to Gibraltar, each vessel to maintain, as nearly as possible, 7,000-H.P., and after touching at Gibraltar to proceed until the coal on board was exhausted. The return run from Gibraltar to Portsmouth was to be at maximum possible speed, without any regard to coal consumption. Both vessels started at the appointed time and touched at Gibraltar, signalling all well, and proceeded to exhaust their coal supplies. After steaming 103½ hours at 7,009-H.P. the "Hyacinth" was obliged to put into Gibraltar, owing to having lost a considerable quantity of water through leaky feeding connections. The "Minerva" returned, after steaming about 150 hours, having stopped for some two or three hours owing to derangement of the machinery. Taking into consideration the time under way and the H.P. developed, the coal consumption per pound of water evaporated appears to be slightly in favour of the "Hyacinth," but for practical purposes the results may be taken as equal. It is only fair to note, however, that the loss of water, through defective feed connections, must have told considerably against the efficiency of the "Hyacinth" boilers. Having recoaled and put the machinery into order for the run home, they left Gibraltar at about 4.30 p.m. on Wednesday the 17th ult.

The "Minerva" arrived at Portsmouth at 9.50 p.m., and the "Hyacinth" at 11.25 p.m. on the 20th ult. The incidents of the run home are not yet known but whatever they were there seems little doubt that the Belleville boiler compares very favourably with the cylindrical boiler with regard to coal consumption : and, even assuming it were only equal to the cylindrical boiler, it should be borne in mind that it possesses tactical and other advantages, notably lightness of weight, which render it superior to its competitor for naval purposes. Of the capability of maintaining a high rate of speed for a considerable period, the majority of the runs made by vessels fitted with Belleville boilers in His Majesty's service are conclusive evidence. There will undoubtedly be much information to be gathered from other valuable *data* acquired by the Boiler Committee during these trials, the publication of which must prove of the highest possible interest to the engineering profession and the general public.

At 4 o'clock on Wednesday afternoon the signal was made "Light up and proceed to England." Three-quarters of an hour later the "Hyacinth" was steaming at 18 knots. At a quarter-past 5 the "Minerva" was following at full power. At 4 o'clock on Thursday morning the "Hyacinth" had a lead of 9 knots, and then the leading

ship ran into a fog bank, where she was joined by her rival. They both eased down to 8 knots until 10 o'clock, when the fog lifted, and the "Minerva" steamed away at 8,400-I.H.P. and the "Hyacinth" at 9,400, but, in spite of her inferior power, the "Minerva" drew away and increased her lead at the rate of 1·3 knots. This was, from a scientific point of view, the most instructive part of the race, as it showed that the "Minerva" possesses an advantage either in the form of her propellers or in the superiority of her lines, for when the "Hyacinth" made a sprint of three hours at 10,000-I.H.P. she merely churned the water without appreciably increasing her speed. On Thursday night, when in the Bay of Biscay, another fog was encountered, and for ten hours both ships proceeded at 7 knots. Then they went ahead again at the same power as before. On nearing Ushant there was another fog, which lasted six hours, and again speed was reduced to 7 knots, but the "Minerva" being the leading ship, cleared an hour before her rival, and she increased the lead by half an hour by the time Spithead was reached. During the run home no difficulty was experienced in keeping 90 per cent. of full power in the "Hyacinth," and the "Minerva" could keep her full power at natural draught with equal ease, the retarders affording considerable assistance. The net results are of an unsensational character. The "Hyacinth" is much more powerfully armed than the "Minerva," but her 2,000 additional H.P. gives her no appreciable advantage. The trial has demonstrated that the reputed speed of the "Hyacinth" class is fictitious, for, owing to causes which cannot here be inquired into, it is now known that any effort to attain more than 9,000-H.P. is labour and fuel wasted. Thus at 7,000-I.H.P. the speed of the "Hyacinth" was 17·9; at 9,400 it was 19 knots: and at 10,000-I.H.P. it was still 19 knots.—*Times.*

The Shallow-Draught Gun-boat "Teal," constructed by Messrs. Yarrow & Co., Ltd.—The following is a description of the two shallow-draught river gun-boats built to the order of the British Admiralty by Messrs. Yarrow & Co., of Poplar. These vessels are named the "Teal" and the "Moorhen." They are each 160 feet long and 24 feet 6 inches wide. The hull is composed entirely of galvanised steel, and is subdivided into twelve water-tight compartments. The main deck is of steel, and is covered with corticene. The upper deck, or battery deck, extends for about half the length of the vessel. Above this is the awning deck, from which are swung the hammocks for the accommodation of the troops. Protection is afforded at the sides of the vessel by chrome-steel plates, by Messrs. Cammell & Co. There are of sufficient thickness to resist rifle-fire point-blank at close quarters. This armour protects the machinery and cabins: chrome-steel plates form the bulwarks round the battery deck. Forward on the battery deck there is a conning tower, which is also rifle-proof.

The duty for which these vessels were designed was to obtain a speed of 13 knots, equivalent to about 15 statute miles an hour, when carrying a load of 40 tons on a draught not exceeding 2 feet 3 inches. All the machinery and fighting spaces were to be protected by rifle-proof plating, and the fuel to be used was wood only. The system of propulsion adopted by Messrs. Yarrow in this case was that of twin screws, revolving in tunnels of a special design. There are two sets of compound surface-condensing engines, with a speed of about 300 revolutions per minute. There are two Yarrow water-tube boilers, of the usual straight-tube type made by this firm.

The space available in these little vessels has been skilfully utilised for the accommodation of officers and crew. The former are berthed in well-fitted cabins between the main and battery decks; the armour protection being loopholed for rifle fire. Forward, there is a cabin divided to form a ward-room and commander's cabin; this is fitted for three officers. Aft of this there is a cabin which will accommodate eight petty officers. The arrangements for the crew are made for natives, and there is a specially-fitted sick bay. The magazines are placed below, ammunition hoists passing through the cabins, so that there is direct communication, under cover and protected from shot by the cabin plating, between the magazine and the battery deck.

The vessels have square sterns, and in order to insure quick manœuvring powers—very necessary when navigating crooked rivers, often full of shallows—there are four rudders, which can be actuated either by steam or hand gear. There is a fan in the

stokehold, for forced-draught purposes. This was not in operation during the official trial to which reference will be presently made, but is intended to be used under exceptional circumstances, when only wood of an inferior character is available for fuel.

It will be seen, from what has been said, that Messrs. Yarrow, in accepting this contract, had a somewhat difficult problem to solve before attaining success. The firm has had, however, considerable experience in steamers of this class, and for many years past has been remarkably successful in securing high speed on very light draught, with vessels built in floatable sections for easy transport. The latter system of construction was introduced by Messrs. Yarrow & Co. about eighteen years ago, by means of a stern wheeler, "Le Stanley," built to the order of the King of the Belgians for the exploration of the Congo River. The floatable section system offers notable advantages in vessels intended for new countries, as it obviates the old method of sending the hull out in parts, to be riveted up where skilled labour is nearly sure to be difficult to obtain, and where launching may be a tedious and prolonged operation. By placing the twin screws in tunnels of a special design, a large diameter of propeller in made possible, without the tips of the blades passing as they revolve below the bottom of the hull; and thus the screws are not liable to be damaged if the boat runs on to a sand-bank. Moreover, they can be brought nearer the surface of the water without losing efficiency by drawing down air; and, indeed the result of the trial shows a good propulsive result. With this system, too, the propellers are very accessible. Doors are placed at the crown of the tunnels, which rise above the level of the surrounding water and by removing these the screws can be examined or removed without difficulty, while the vessel is afloat. The advantage of carrying out these operations without docking the boat or putting her ashore will be apparent, especially in a new country.

It will be remembered that two shallow-draught gun-boats, "The Shiekh" and "The Sultan," were built about four years ago to the order of the Egyptian Government for service on the Nile, where they played an important part in the operations against Khartoum. The "Teal" was launched on 18th May, with steam up, and at once made a run down the Thames for a preliminary trial. A few days later, the official trial of which we annex particulars, was made. On this occasion the Admiralty were represented by Mr. Cotsell and Mr. Adams, of the Department of the Director of Naval Construction: whilst Mr. Spyer and Mr. Harding were present on behalf of the Engineer-in-Chief.

Results of the official trial at the Admiralty measured knot on the Thames, 24th May, 1901.

Load 40 tons. Draught 2 feet 2½ inches.

Number.	Hour.	Boiler Pressure.	Vacuum.	Air Pressure in Stokehold.	Revolutions per Minute.	Time.	Speed.	Means.	Second Means.	Mean Speed.
		lbs.	P. S.			min. sec.				
1	10.21	150	26 26	Nil	278·5	4 1	14·938			
2	10.32	150	26 25	,,	282·9	5 22	11·180	13·059	13·013	
3	10.42	150	26 26	,,	281·5	4 4	14·754	12·967	13·038	13·045 knots equal to 15·014 statute miles.
4	10.51	150	25½ 26	,,	282·6	5 14	11·465	13·109	13·035	
5	11.0	150	25½ 26	,,	284·3	4 9	14·458	12·961	13·095	
6	11.10	150	35½ 24	,,	289·5	5 0	12·000	13·220		
Mean of Miles		150	25½ 26	Nil	Mean of means of revolutions 282·9.					

After the six runs on the measured mile a three hours' trial was proceeded with, the mean revolutions being 282·6, equal to 13·033 knots, equal to 15 statute miles, as the mean speed for the three hours. During one hour wood fuel only was used, and forced draught was not resorted to, the fan being kept slowly revolving for the sake of ventilation only.

From the naval architect's point of view, the trials are exceedingly interesting. The high speed and light draught, the considerable load of 40 tons, and the large area protected against rifle-fire, are all matters of great importance. From the engineering point of view, also, the performance of the boiler is worthy of attention, and shows how well the Yarrow class of steam generator can be operated without forced draught. It is not only to the designer of warlike craft that these clever boats will appeal. They are, perhaps, of even more interest to trades engaged in opening up new markets for British manufacturers in distant lands.—*Engineering.*

The Gun Trials of the "Formidable."—The new first-class battle-ship "Formidable" has carried out her gun trials at Portsmouth under the supervision of Captain A. Barrow, of the gunnery school "Excellent," successfully. Five rounds were fired from the two 12-inch guns in the fore turret, and seven were fired from the after turret. Six of these rounds were fired in salvos of two each in 144 seconds. The machinery, all of which was designed and supplied by Sir W. G. Armstrong, Whitworth & Co., of Elswick, worked without a hitch throughout the trials—a result that reflects the greatest credit on the hydraulic department of Portsmouth Dockyard, who erected the hydraulic machinery on board. As far as the hydraulic machinery for working the 12-inch guns is concerned, the "Formidable" is the first of a class which includes the "Implacable," "London," "Bulwark," "Duncan," "Cornwallis," "Russell," and "Queen," and therefore the trials which took place were of much importance. The last two ships to be completed were the "Albion" and the "Glory," and they stand alone in the design of their hydraulic gun machinery.

Besides having an improved design of machinery, the "Formidable" carries 12-inch guns of greater power than her predecessors, for, though the projectile is of the same weight, it is given a higher velocity, which is due to a larger cordite charge. In the "Glory" and "Albion" the ammunition was brought from the magazine through a long trunk direct to the breech of the guns, but, in the "Formidable," a beak, or projection, is made at what is known as the working chamber. This chamber is under and attached to the turn-table, and the object of landing the ammunition there on its way to the guns is to make the final hoist as short and, therefore, as quick as possible. The supply of ammunition from the shell-room and cordite magazine to the working chamber thus goes on independently of the firing of the guns, and there is, therefore, always a charge, or even two charges, ready for each gun. The moment a gun is fired it is run out after a recoil of 33 inches and put into the loading position, which is at 4½° of elevation. This, it may be parenthetically remarked, is a new departure, the loading angle for 12-inch or larger guns having previously been 13½°. At the same time as the gun is run out the breech is opened by hand, and then, by the movement of a lever, the 850-lb. shot and the cordite charge are made to rise up from the working chamber to the gun. Another lever causes the chain rammer, which is a further new departure, to ram home first the shot and then the charge. The empty ammunition cage then disappears again into the working chamber, the breech is closed by hand, and at the same time the gun is elevated again as desired.

It will be observed that the loading angle being only 4½°, no time is likely to be wasted in restoring it to the angle of elevation required when firing at an enemy—indeed, the operation is so rapid that it takes much less time than the closing of the breech. 4½° has been chosen as a desirable angle, as it is considered that, whenever rapid firing is desirable, the range will not be great, and will be within the angle of elevation, which corresponds to a range of about 4,000 yards. The great object sought for in modern designs of gun mountings is rapidity of fire, and with many operations in loading a few seconds gained in each ensures an important total gain, while the possibility of firing two shots in a minute instead of 1½ minutes may decide a battle. For this reason the chain rammer has been introduced, and by its means the gain of a few seconds per round is secured. The usual number of rounds was fired from the 6-inch and smaller guns without incident.—*Times.*

FRANCE.—The following are the principal appointments which have been made: Rear-Admirals—J. P. Besson to command of Reserve Division of Mediterranean Fleet; C. T. Rouvier to command at Marseilles. Capitaines de Vaisseau—L. P. Noël to "Borda"; P. R. Dufayot de la Maisonneuve to "Bouvet"; A. A. L. Bonifay to "Montcalm"; L. A. Douin de Rosières to "Brennus." Capitaines de Frégate—L. Passerat de Silans to Capitaine de Vaisseau; J. P. Bouthet des Gennetières to "Davout"; D. M. Gauchet to "Cassini."—*Le Journal Officiel de la République Française.*

Rear-Admiral Besson, who has recently been in command at Marseilles, has been appointed to the command of the re-constituted Reserve Squadron of the Mediterranean Fleet, which will be formed on the 10th inst., and consist of the following ships:—

First-class battle-ships—"Brennus," "Carnot," Hoche," "Amiral Baudin."
Torpedo depôt-ship—"Foudre."
Torpedo-boat destroyer—"La Hire."

From the same date the coast-defence battle-ships "Bouvines," "Amiral Tréhouart," "Valmy," and "Jemappes" will be transferred to the Squadron of the North. Rear-Admiral Besson will hoist his flag on board the "Brennus," and his Chief of the Staff will be Capitaine de Frégate Thibault. The battle-ships "Carnot," "Hoche," and "Amiral Baudin" are transferred, with the destroyer "La Hire," from the Squadron of the North, which in its turn will be re-constituted.

This latest arrangement is not in accordance with the Budget proposals for 1902, as submitted recently to the French Chamber. In them the Mediterranean and Northern Squadrons are constituted as under:—

MEDITERRANEAN.

First Division.
First-class battle-ships—"Saint Louis," "Gaulois," "Charlemagne."

Second Division.
First-class battle-ships—"Charles Martel," "Bouvet," "Jauréguiberry."

Cruiser Division.
First-class armoured cruisers—"Pothuau," "Latouche-Tréville," "Chanzy."
Second-class cruisers—"Cassard," "Du Chayla."
Third-class cruisers—"Galilée," "Linois."
Destroyers—"Dunois," "Hallebarde," "Pique," "Espingole," "Épée," "Pertuisane," "Condor."

The Reserve Division of the Mediterranean is then given as composed of:—
First-class battle-ships—"Brennus," "Marceau," "Jauréguiberry," provided that the new battle-ship "Suffren" is ready to take the place of the "Jauréguiberry" in the Squadron, which at the present rate of her completion would seem to be extremely doubtful.

NORTHERN SQUADRON.

First Division.
First-class battle-ships—"Masséna," "Iéna," "Carnot."

Second Division.
First-class battle-ships—"Formidable," "Amiral Baudin," "Hoche."

Cruiser Division.
First-class armoured cruisers—"Jeanne d'Arc," "Bruix," "Dupuy de Lôme," "Montcalm."
First-class cruisers—"Chateaurenault." "Jurien de la Gravière."
Second-class cruiser—"D'Assas."
Destroyers—"Fleurus," "Cassini," "La Hire," "Fauconneau," "Yatagan," "Durandal" (to be relieved by "Escopette").

The Reserve Division to consist of :—

Second-class battle-ships—"Courbet," "Dévastation," "Henri IV."

Third-class cruiser—"Surcouf."

Of the ships mentioned above it should be noted, however, that neither the armoured cruisers "Jeanne d'Arc" and "Montcalm," nor the protected cruisers "Chateaurenault" and "Jurien de la Gravière," have as yet been completed.

Launches.—The launch of the armoured cruiser "Dupetit-Thouars" took place at Toulon, on 5th July. Her principal dimensions are:—Displacement, 9,517 tons; length, 138 metres (452·7 feet); beam, 19·40 metres (63·5 feet); she has vertical triple-expansion engines, water-tube boilers and three propellers, and is to have a speed of 21 knots. The ordinary coal storage is 1,020 tons, giving a radius of action of 6,500 miles at 10 knots, and 1,230 miles at full speed. It is possible however to carry 1,600 tons giving a radius of action of 10,300 miles at 10 knots, and 1,920 miles at full speed. Protection is given by an armoured belt 160 millimetres (6·2 inches) thick, turret armour 220 millimetres (8·6 inches) thick, and an armoured deck 50 millimetres (1·5 inches) thick. Her armament includes two 194-millimetre (7·6-inch) guns, eight 164-millimetre (6·4-inch), four 100-millimetre (3·9-inch), sixteen 47-millimetre (1·8-inch), and six 37-millimetre (1·4-inch). She also has two submerged torpedo-tubes. Her complement is fixed at 32 officers and 578 men, and her cost is 20,795,975 francs (£831,839); she was commenced on 17th April, 1899.

The submergible vessel "Triton" was launched at Cherbourg on the 13th July. She is an improved "Narval" of 106 tons, and is 34 metres (111·5 feet) long by 3·75 metres (12·3 feet) broad. Like the "Narval," she will have two motors, steam for navigating on the surface and electricity when submerged. The steam engine will have 217-H.P. giving a speed of 12 knots. She has four torpedo discharging positions, and is to carry 2 officers and 9 men; her cost is 617,500 francs (£24,700).

Trials of Submarines.—During the manœuvres the submarine vessel "Gustave Zédé" had a successful passage from Toulon to Ajaccio, convoyed by a tug. She entered Ajaccio Bay completely submerged, unnoticed by any of the semaphore look-outs or vessels in the bay, and made a torpedo attack on the battle-ship "Charles Martel"; after firing the torpedo—which it is reported struck the "Charles Martel"—she came to the surface for a moment and was immediately under fire; diving again, she got so close to the ram of the "Jauréguiberry" that the latter had to put her helm over to clear her, and in real warfare would have sunk her. For this reason, in accordance with the rules, the "Gustave Zédé" was disqualified. It looks as if a serious calamity was but narrowly averted, and illustrates the danger of submarine boating.

Submarine torpedo practice has also been attempted with the vessel "Morse" at Havre. She had orders to endeavour to torpedo the gun-boat "Cocyte," at anchor in the roadstead, but though her approach was satisfactory and she arrived at Havre without her entry having been perceived, nevertheless it is said the state of the sea prevented the firing of the torpedo.

The Manœuvre Squadron.—M. Waldeck-Rousseau, Minister of Interior and Premier, and M. de Lanessan, Minister of Marine, arrived at Ciotat on 27th July and were received at the station by Admiral Gervais and staff; the party then proceeded to a private landing-place, where three galleys from the "Bouvet" were in attendance, in which they embarked and were towed out to the flag-ship by the ship's steam launch. The "Bouvet" then got under way, and, accompanied by the cruiser "Gallilée" and two destroyers, joined the fleet waiting in the offing in column of divisions, the Mediterranean fleet forming one division, and the Northern Squadron the other. The "Bouvet," escorted by the destroyers, then passed up between the lines, the Ministers reviewing the fleet and receiving the salutes on the bridge; this manœuvre was effected while the fleet was under way, steaming at a speed of 6 knots, the "Bouvet" and her escort proceeding at 14 knots; the ships were manned and guards and bands saluted as she passed. On arrival at the head of the line, the "Bouvet" took up her fleet position as leader of the

inshore column, and the whole fleet proceeded at 8 knots speed for the Salins d'Hyères various evolutions being performed on the way. The cruise was continued the same evening to Ajaccio, where an attack was made by the landing parties on Fort d'Aspretto, which was repulsed, the garrison having had time to concentrate in superior force. On the evening of the 28th the fleet was at sea again, and the "Bouvet" parted company, and, leaving Admiral Ménard in command, Admiral Gervais conveyed the Ministers back to La Ciotat, where they arrived on the 29th. Target practice was carried out from the "Bouvet" during the passage, and the Ministers congratulated the captains of the guns on their accurate shooting. At Ciotat the "Gustave Zédé" (submarine vessel) was in attendance, and the Ministers witnessed some submarine manœuvres. Before leaving the ship they conferred decorations on some of the officers, and Admiral Gervais has been gazetted to the Grand Cross of the Legion of Honour, and Admiral Courrejolles to be Grand Officer of the same order.

The whole fleet arrived at Toulon on the afternoon of the 29th, and on the 1st August a grand review of the landing parties took place on shore before Admiral Gervais and the principal officials. The same afternoon Admiral Gervais hauled down his flag, Admiral de Maigret resuming command of the Mediterranean and Admiral Ménard of the Northern Fleets, and the French Naval Manœuvres of 1901 were concluded.

During the manœuvres, the fleet arrived at Toulon on 11th July, for coal and stores: 4,250 tons of coal were embarked in the first hour, and the total taken on board the several ships amounted to 13,000 tons of coal, 90 tons of oil, 700 tons of petroleum, and 3,000 tons of water. Admiral Gervais has addressed a memo to the officers and men of the Fleet, congratulating them on the rapidity with which the coaling was carried out. The "Gaulois" embarked a mean of 185 tons, and the "Saint Louis" 172 tons (persumably per hour). On the afternoon after anchoring, 9 battle-ships and 4 cruisers completed their coaling; and thanks to the zeal of the officers and smartness of the crews, the operation was a record one for the French Navy. The Admiral concludes his memo by saying, "We shall soon have nothing further to learn from foreigners."

General.—The loading apparatus invented by Commandant Guye has been tried on board the "Valmy" with satisfactory results, and the inventor was congratulated on its success by the Commission. The gun used was a 340-millimetre (13·3-inch), mounted in a turret, and five rounds were fired in 4½ minutes.

Two submarine mines exploded in one of the passes of Toulon on the evening of 12th July. The explosion is said to be due to a local thunderstorm. Luckily no vessel was near at the time.

The wooden cruisers "Duquesne" and "Tourville" are being sent from Brest to Cherbourg, to experiment with the Moissenet transporter.

It is said that at the present time, 14 of the French battle-ships and cruisers are fitted with Marconi's wireless telegraphic apparatus.—*Le Yacht* and *Le Temps.*

GERMANY.—*The Estimates for 1901.*—The following are the corrected figures of the Summary of the German Naval Estimates for 1901 :—

Summary.

	1901.	1900.	Increase.
	£	£	£
Ordinary Permanent Estimates	3,905,647	3,615,539	290,108
Shipbuilding, Armaments, etc....	3,002,062	1,869,758	1,132,304
Extraordinary Expenditure	2,916,976	1,987,329	929,647
Total	£9,824,685	£7,472,626	£2,352,059

—*Etat für die Verwaltung der Kaiserlichen Marine auf das Rechnungsjahr 1901.*

RUSSIA.—The following are the principal appointments and promotions which have been made: Rear-Admirals—Kreger, Director of the Naval Cadet Corps, to

command the squadron in the Mediterranean, vice Rear-Admiral Biriliev; Chutonin to be Junior Flag Officer of the Pacific Squadron. Captains—Lomen, Domojirof, Loshchinski, and Abaza I. to be Rear-Admirals: Kolands to Superintend the Torpedo Flotilla of the 29th Naval Division: Bubuof, from the first-class cruiser "Herzog Edinburgski," to command the 3rd Naval Division and battle-ship "Piotr Veliki"; Tsyvinski to Command the first-class cruiser "Herzog Edinburgski": Stemman I, from the first-class cruiser "Pallada" to the first-class cruiser "Admiral Nakhimov" vice Vsevolojski; Kossovich, from the 13th Naval Division, to Command the first-class cruiser "Pallada": Sarnavski to be Flag Captain of the Shore Staff of the Senior Flag Officer of the Black Sea Squadron.

New Ships.—A cruiser, to be called the "Almaz," has been ordered of the Baltic Shipbuilding Works. Her displacement is to be 3,200 tons and her engines have been ordered of the same works at a cost of 1,000,000 roubles (£160,000). The cruiser "Ochakov," in process of construction at the Government Yard at Sevastopol, is to have a displacement of 6,250 tons. Her engines, of 19,500-H.P., have been ordered of one of the southern factories. Her special feature with regard to armour is that the protected deck, of about 2½ inches in thickness, is supplemented by armoured tubes protecting the supply of ammunition to the guns. The hull will be made of Siemens-Martin steel, and there will be two steel masts with tops. The speed contracted for is 23 knots, and the armament will consist of twelve 6-inch Q.F. guns, and twenty-two small quick-firers.

The new first-class battle-ship "Osliabia" will be completed in all particulars by the summer of next year. At present the last plates of the broadside armour are being fixed. In the early summer when the fixing and securing of the lateral protection is completed, the vessel will be brought out of the Alexandrof dock. Her armament is now ready at the Obukhov Steel Works. The turret machinery is being made by the St. Petersburg Metal Works, and as the after turret has not yet been put together and armoured, this will be done when the vessel leaves dock. The torpedo apparatus is in the hands of the Lesner Works, and two of the submerged traversing tubes are already in position.

Two new torpedo-boats, the "Berkut" and the "Yastreb," built by the Government Ijora Works, have been taken over and undergone preliminary trials satisfactorily. It is understood that the former will be used by the pupils of the Emperor Nicholas I.'s Naval Engineer Institute for instructional cruising.

The first-class cruiser "Variag," built in America, has arrived at Kronstadt and been inspected by the Commander-in-Chief, Vice-Admiral Makarof.

The machinery for the new cruiser of 6,300 tons displacement, sister ship to the "Bogatyr," now under construction at St. Petersburg, has been ordered of the Franco-Russian Manufacturing Company from plans submitted by the Vulcan Works. Her three engines are estimated to develop not less than 19,500-H.P., giving her a speed of 23 knots, with a normal draught of 20 feet 6 inches. The cranks will be fitted with Shlik counterpoises. The engines will receive steam from 16 water-tube boilers of the Normand pattern, under a working pressure of 256 lbs. to the square inch. The condensers of sea-water will be fitted for supplying feeding and drinking water. The engine-room ventilation is electrical. The boilers are in three groups, two longitudinal of six each and in each compartment, and four transversal. Each of these compartments will be furnished with a separate funnel. The heating surface of these sixteen boilers collectively is estimated at 19,496 square feet, or 2·5 square feet to each I.H.P., which may be taken as nominal, considering that the vessel is fitted with heaters for the feeding water. The grate area will be 988·8 square feet. The water-heating pipes will be of a diameter of 36 millimetres and a thickness of 3 millimetres. In each boiler compartment there will be from six to eight steam ventilators, receiving air from shafts communicating with the upper deck.

The expenditure of coal during the two official trial trips of six hours each is contracted for not to exceed 2 lbs. to each I.H.P. "In case of its exceeding 2½ lbs. by

8 per cent. the company is liable to forfeit 37,500 roubles (£6,000), if by 12 per cent. 78,750 roubles (£12,600), and if 14 per cent. 105,000 roubles (£16,800). The cost of the machinery and all accessories is estimated at 2,900,000 roubles (£624,000), the entire weight not to exceed 1,272 tons, under penalties both for excess and deficiency ranging to 68,500 roubles (£10,960) for 9 per cent.

The new torpedo-boat destroyer "Forel," built by Auguste Normand in France, has recently completed the preliminary trials of her engines, in which she developed a speed exceeding 27 knots, which gives ground for expecting complete success at the official trials. These are to be held at Toulon.

The second-class cruiser "Novik," which is approaching completion at the Schichau Yard at Elbing, will be taken over and her engines officially tested this month. Special difficulty has been experienced in placing and distributing the 12 water-tube boilers, also the work of the Schichau factory; and the bulkheads have also caused great difficulty; but there is every reason to hope that the vessel will attain the contract speed of 25 knots. As her displacement is little more than 3,000 tons, it is considered rather exacting to expect such a speed, as no vessel of that size has so far attained such a speed. The result of the trials is therefore anxiously awaited, both by Russian and German engineers. If the speed is accomplished, the vessel will be taken as the type of commerce-destroyers.

The battle-ship "Imperator Alexandr II.," built at the Baltic Works, was launched on May 27th. On the same day the laying-down of the battle-ship "Kniaz Suvorov," entrusted to the same works, was proceeded with.

Early this month at the Galernia Ostrooka, at St. Petersburg, there took place in the presence of the Grand Duke Alexye, Admiral-General, the inauguration of the first-class cruiser "Vitiaz," the plate being fastened to the keel by H.I.H. with his own hands. She is a sister ship to the "Bogatyr," building at Stettin. She was laid down on the 21st October of last year, and her dimensions are to be:—Length, 416 feet; beam, 54 feet 5½ inches; draught 20 feet 7 inches, and displacement 6,675 tons. Her engines will have an I.H.P. of 19,500 and give her a speed of 23 knots; she is a twin-screw vessel. The armament will comprise twelve 6-inch guns, four of them in pairs the fore and after turrets, four in casemates fore and aft, and four on the broadside. There will also be twelve 75-millimetre and four 47-millimetre guns. Sixteen boilers of the Normand pattern have been ordered for her of the Franco-Russian Works. The deck armour will be forged at the Ijora Works, the Mariüpol Factory supplying the steel. The construction is under the charge of Senior Constructor Mustaphine, and it is proposed to launch her early in the summer.

Dockyard Notes.—The battle-ship "Imperator Alexandr II." on arriving at Toloun, put into La Seyne and made a trip in presence of the engineers of the Forges et Chantiers, who took notes of the working of the engines with a view to improvements in the machinery. These will be carried out by the Forges et Chantiers. It is announced that shortly all the vessels of the Volunteer Fleet will be fitted with apparatus for wireless telegraphy on Popoff's method.

The coast-defence battle-ship "Kreml" on completing her cruise will have her boilers, which have become useless, replaced by new ones taken from the old monitors "Lava" and "Bieshchun"; the four boilers which are in process of removal will have a heating surface of 6,606·18 square feet, and a grate area of 256 square feet, or as compared with the older, a diminution of 2,558 square feet and 32 square feet respectively. Their weight when full will, however, be 46 tons less than the old, which weighed 288 tons. The Technical Committee is of opinion that this heating surface is sufficient to enable the engines to develop 840-I.H.P., which will give the vessel a speed of 8 knots.

On the arrival of the second-class cruiser "Djigit" at Kronstadt she will have her engines and boilers removed; the former will be replaced by engines taken from the second-class cruiser "Nayezdnik," but the boilers will be new, and are held in readiness after proper testing with hydraulic pressure by the Baltic Shipbuilding Works.

As the torpedo-boats of the "Sokol" type are completed, it is proposed to station 12, if not 15, of them at Kronstadt, and as they require safe harbourage in winter, the Petrovski Dock will not suffice, as though it can accommodate them, it can do so only by leaving no room for other vessels, more especially the coast-defence ships, which often need under-water repairs. The existing torpedo-boat slips can only accommodate the smaller vessels of the "Piernov" type. It is therefore proposed to construct some additional small docks and slips combined solely for the use of the new torpedo-boats.

Measures are being taken by the St. Petersburg Metal Works to prepare for the execution of an order placed with them by the Ministry of Marine for 10 steam cylindrical boilers for the cruiser "Rynda." These will be made on the pattern of the old ones of the best soft steel, according to the regulations of the English Board of Trade, for a working pressure of 80 lbs. to the square inch, though the hydraulic tests will be carried out at a pressure of 155 lbs. The time allowed for the execution of the order is eight months. The Minister has also ordered new boilers for the following torpedo-boats :—

1. No. 103 ("Piernov"), No. 119 ("Polangen"), and No. 120 ("Pakerort"); these will be on the Yarrow water-tube system, with a working pressure of steam of 235 lbs., the trial being carried out with a working pressure of 365 lbs.
2. Locomotive boilers for torpedo-boats No. 106 ("Luga"), No. 107 ("Narua"), No. 115 ("Tosno"), No. 112 ("Rochensalm"), No. 101 ("Kotline"), No. 102 ("Vyborg"), and No. 105 ("Lakhta"); the working pressure of steam in these boilers is to be 130 lbs.

The engines for the new battle-ship of some 13,000 tons displacement, which is to be built at Nicolaiev, are to be ordered of the Sormov Works, and are to be of 17,000-I.H.P. The speed of the vessel will be 18 knots, and her length about 390 feet; she will be fitted with Belleville boilers without economisers.

At the present moment the Neva Mechanical Works are engaged in preparing plans for four first-class torpedo-boats of 350 tons, which are to be built at Nicolaiev, by the Government Yard there.

It has been decided to expend 3,000,000 roubles and upwards in works for the completion of the port of Windau. The matter has been three times referred to the Imperial Council, owing to the necessity of an exact *exposé* of the project from the technical point of view, though the necessary sum was held in readiness, as the work is very urgent, being closely connected with the completion of the railway line from Moscow to Windau.

It is proposed to erect shortly a small building yard on the River Amur, the expense to fall on the Ministry of Marine. Three private yards will also be constructed, which will in time be available for men of war. At Port Arthur there will be one of sufficient magnitude for torpedo-boats. Private enterprise will be supplemented by Government subsidies, this being a bad time for such, owing to competition and the high price of steel, England of course being the most dreaded rival.

General.—The Directors of Naval Construction have issued instructions, based on the decision of the Cabinet, that for the future all products and materials employed for the Navy shall be of Russian manufacture, and purchased in Russia. Orders and purchases through the agents and middlemen of foreign factories and firms staying in Russia are strictly forbidden. In all orders and contracts it is to be expressly stipulated that the things contracted for are to be made in Russia and of Russian materials, including those actually employed in shipbuilding.

The good service rendered by the gun-boats of the Pacific Squadron in bombarding the Taku forts has raised the question as to the most suitable type for use in those waters. There are at present seven gun-boats there, which may be divided into two groups, according to their draught. The first would include four boats of the Siberian flotilla and the "Giliak," a recent arrival, but one which has already shown its good

qualities, and the second the "Gremiashchi" and "Otvajny." In the former the draught varies from 8 to 11 feet, while the first of the two latter draws 13 feet, and the second more than 14 feet. Yet the seaworthiness of the Siberian boats has been demonstrated by numerous cruises both in Southern waters and round the Commodore Islands, and as regards coal supply they are also much better off, as they do not have to load it in bags on the deck. It appears, therefore, that the best type is one suitable both for sea and river service, and that large vessels are in many instances in these waters reduced to the condition of passive spectators.—*Kronstädtski Viéstnik.*

Stations of ships by last advices to Ministry of Marine :—

PACIFIC SQUADRON.

Port Arthur.
Battle-ships—"Navarin," "Sissoi Veliki," "Petropavlovsk," "Poltava," "Sevastopol."
First-class cruisers—"Rossia," "Admiral Nakhimov," "Dmitri Donskoi."
Second-class cruisers—"Razboinik," "Zabiaka."
Gun-vessels—"Mandchur," "Giliak," "Sivuch."
Torpedo-vessels—"Vsadnik," "Haidamak."
Torpedo-boats—"Kit," "Som," "Skat," "Kasatka," "Delphin."

Talienwan.
First-class cruiser—"Admiral Nakhimov."

Kobe.
First-class cruiser—"Vladimir Monomakh."

Taku.
Gun-vessel—"Bobr."

Shanghai.
Gun-vessel—"Otvajni."

Ninchwan.
Gun-vessel—"Gremiashchi."

En route to Pacific from Australia.
First-class cruiser—"Gromoboi."

MEDITERRANEAN.

Toulon.
Battle-ship—"Imperator Alexandr II."
Torpedo-boats—Nos. 119, 120.

Piræus.
Gun-vessel—"Kubanets."

Smyrna—
Gun-vessel—"Khrabry."
Torpedo-vessel—"Abrek."

UNITED STATES.—*Bureau of Equipment.*—Rear-Admiral Royal B. Bradford, Chief of the Bureau of Equipment, in his annual report for 1900 gives the total of expenditures for the year at $3,749,682·62 (£781,184), of which $3,117,980·10 (£649,579) was for the equipment of vessels, $400,000 (£83,333) for depôts for coal, and $100,000 (£20,833) for ocean and lake surveys. All of the original appropriations were found adequate. A summary is given in the report of the work done at the various Navy yards.

The average price of the 141,921 tons of coal purchased in home markets was $5·88 (£1 4s.) per ton, including transportation. The 86,476 tons purchased abroad cost an average of $8·53 1-2 (£1 15s.) per ton. The total was 53,000 tons less than

for the year 1899; it is also only 26,000 tons less than the combined expenditures during the fiscal years 1896 and 1897, while the cost is about $300,000 (£62,500) more.

It is found cheaper to ship coal to foreign stations and a better quality is obtained. The construction of barges carrying 10,000 each is recommended. Special attention has been given to the analysis of Eastern coal in the hope of obtaining a supply abroad. Six new iron barges have recently been ordered for Manila. To secure sufficient good coal, depôts should be kept well stocked. Not a ton of Pocohontas coal is to be had in New York, owing to business combinations for promoting trade in other coal. A report is given of the condition at the various coal depôts and the work upon them. They are at Hawaii, Samoa, Guam, Cavite, P.I.; Yokohama, West Indies, and Pichilingue, besides.

Water has been distilled for the Navy at an average cost of $0·544 (2s. 1d.) per 1,000 gallons, or purchased for $1·09 (4s. 2d.) per 1,000. A monthly decrease of $343·75 (£71 10s.) has been obtained by the use of a water front at Cavite, P.I. The distilling plant of Dry Tortugas produces 60,000 gallons.

The sum of $26,491·08 (£5,519) has been paid for pilotage, and this amount is expected to increase, as officers are no longer required to report their reasons for taking pilots.

Considerable space is given in the report to an interesting account of the surveys on a Pacific cable which have established the fact that a practicable cable can be laid. 2,074 stations were occupied in the survey, distributed over 6,114 knots. Depths of 5,160 and 5,269 fathoms were attained, with temperature of 35·9° Fahr. at 5,070 fathoms and 36° at 5,101 fathoms. An almost level plain of 2,700 fathoms depth extends from Honolulu to the Midway Islands, and another of from 3,100 to 3,200 fathoms depth between the Midway Islands and Guam. This last is interspersed with reefs and mountain ranges, which it is necessary to explore and avoid. Between Guam and the Philippines the ocean bed is undulating. The depths for the first 600 miles vary between 1,400 and 2,700 fathoms; then occurs a gently undulating plain varying between 3,000 to 3,500 fathoms. Between Guam and Yokohama an almost level plain is found for a distance of 500 knots from Guam at a depth of 2,100 fathoms. At that point a submarine mountain range was discovered which apparently connects the range extending from the coast of Japan to the Bonin Islands with that of the Ladrone Islands. While crossing this range a submarine peak rising to within 483 fathoms of the surface was found and developed, which, if it could be seen, would closely resemble the famous volcano Fujiyama, near Yokohama, Japan. Next the bed of the ocean slopes gradually to the Japanese Deep.

Between the mountain range of the Bonins and the Japanese Deep a plateau from 40 to 100 miles in width and about 1,700 fathoms deep, sloping gently from the mountains to the eastward and then dropping abruptly, was discovered, which extends to the Japanese coast.

The greatest difficulty was experienced in finding a suitable pass to cross the mountain range between the Ladrones and the Bonins. This being accomplished, the plateau affords an excellent resting-place for a cable for the balance of the route.

The object of the surveying expedition was most successfully and expeditiously accomplished. The Bureau anticipated the survey would occupy one year's time. It actually commenced at Honolulu, 6th May, 1899. It was completed there 29th January, 1900—in eight months and twenty-three days' time.

This was accomplished only by the untiring energy of the officers and men of the expedition, working day and night without rest, except for the brief period of two weeks at Yokohama, Japan. All deserved the highest commendation, which the Department acknowledged and bestowed. So much of the time had been spent at sea, without fresh food, that only a small number of the officers and men escaped without sickness after the cruise ended.

After the "Nero" was placed out of commission, Lieutenant John Hood, U.S.N., her executive officer, to whose energy and good judgment the success of the survey was largely due, was assigned to special duty under this bureau for the purpose of construct-

ing large-sized charts for use in cable-laying, and discussing and tabulating the *data* obtained.

Nine naval vessels have been engaged during the year in making marine hydrographic surveys. The U.S.S. "Michigan," on the Great Lakes, has been engaged in making surveys in localities where dangers to navigation are from time to time reported. Altogether, during the past year, there have been received from 60 different ships of the Navy 143 hydrographic reports, all of which have been published in notices to mariners. There have also been received 38 reports from 28 different ships relative to reported dangers to navigation.

A more exact survey of the Pacific Ocean is greatly needed. The Bureau approves the recommendation of Captain B. H. McCalla, U.S.N., that all vessels crossing the Pacific be required to traverse certain lanes for the purpose of deciding positively upon the existence of dangers now supposed to be on the direct routes, and also for the purpose of assisting such ships as may have been accidentally disabled. The Hydrographic Office now possesses chart plates to the number of 1,113; in order to be independent of foreign charts, about 3,000 plates will be required. Of the 3,837 different charts issued, 2,137 are British Admiralty charts, 1,250 Hydrographic Office charts and 450 Coast and Geodetic charts Survey charts.

Attention is again called to the practice of adding electrical appliances to ships from time to time after the installation of the electric plant, thereby making it possible to overload the dynamos. Undoubtedly the pay of electricians should be increased, it being far below that paid on shore to a class of men of the required skill. In addition, the Bureau is of the opinion that not sufficient attention is paid to this class of machinery by officers.

The Bureau recommends the installation of the Marconi devices on board of several ships of the Navy, provided it can be done at a reasonable cost.

The report, which is very long, is chiefly occupied with an account of the administrative work of the Bureau. The faithful service of the clerical force is commended, and favourable consideration for their welfare solicited. Attention is again called to the need of an Assistant Chief of Bureau.—*Army and Navy Journal.*

Bureau of Yards and Docks.—Rear-Admiral Mordecai T. Endicott, Chief of the Bureau of Yards and Docks, presents a long report, chiefly occupied with a description of the work done at the various Navy yards and stations and the work still required.

The expenditures during the fiscal year aggregating $4,359,840,81 (£91,247), have been nearly double those for the preceding year, which is accounted for by the fact that many works of importance have been carried on, largely increasing the capacity and efficiency of the various yards and stations. At most of the yards improvements and repairs have covered the construction of new shops of various kinds, storehouses, officers' quarters, etc., the paving of streets and roads, the construction and repair of wharves, extensive work in building permanent quay walls, new sewers, large extensions of the railroad systems, and electric light plants, and the building of several new dry docks. The Portsmouth and Boston yards, which had been practically closed for many years, together with the additional shops and storehouses of modern construction, will soon be able to handle a very large share of the work in case of emergency. The New York yard is the one at which more work has been carried on and more money spent than at any other. The same transformations are taking place at League Island, Norfork, and Mare Island.

At the Norfolk station, improvements affording more extensive accommodations for the Bureaus of Construction and Repair and Ordnance have been in progress. A new light and power station for the Bureau of Yards and Docks is being built, and extensions and improvements of the lighting system have been made.

The important work in connection with the yards and stations has not been confined to those especially named; and many of great value and importance have been made at New London, Washington, Port Royal, Dry Tortugas, Key West, Pensacola and Puget Sound.

The expenditures at the stations in the insular possessions have been in the direction of maintaining works already established, and improvements of a moderate extent only.

The steel floating dry dock for Algiers, La., is progressing very favourably, as well as the work on the four docks authorised by the Act of 3rd March, 1899. Yellow fever has delayed the examination of the Havana dock with a view to its purchase. The great increase in the muster of naval vessels calls for a still further extension of our dock system.

The estimates submitted for the expenditures of this Bureau for the fiscal year 1902 aggregate $12,456,390,22 (£2,595,081), being $11,252,540 (£2,344,279) for public improvements, $500,000 (£104,166) for repairs and preservation, and $500,000 (£104,166) for general maintenance, the balance being made up of estimates for the civil establishment, contingent, and salaries for the Bureau.

Of the estimates for the public works, $3,858,000 (£803,750) is for the continuation of works heretofore authorised by Congress. Other large items in the estimates are for the construction of barracks for enlisted men at the New York and League Island navy yards, estimated for last year and renewed this year.

The very large number of torpedo-vessels being completed and put afloat emphasises the importance of having proper provisions made at an early date for storing them at convenient points upon our coasts.

The rapid increase in the Navy afloat which has occurred of late years has made extraordinary demands upon the shore establishment. Yards which a few years ago handled fairly well the amount of work then required of them are strained to the utmost at the present time.

The works already in hand require that several of the yards should be considerably increased in area. This is particularly true of that at Norfolk.

The naval station at San Juan, P.R., is so cramped that it is practically impossible to add materially to the establishment. Besides lands belonging to the War Department which have been asked for, there are private lands in the vicinity which should be made a part of the station and which can be bought with the improvements upon them for a comparatively moderate sum. Careful inquiry as to the character of these improvements shows that many of them would be found valuable permanent features of the establishment, as they include several well-built shops adapted for the needs of a second or third rate naval station. The Bureau recommends that Congress provide for the improvement of navigation at Portsmouth, N.H., by the removal of Henderson's Point.

It is highly important that Mare Island be accessible at all times, and the navigation should be ample for the deepest-draught vessels.

The Bureau renews its recommendations made in previous annual reports for a re-organisation and increase of the corps of civil engineers of the Navy. The amount of the constructive work now in hand is more than four times as great as that prior to the Spanish war, and the great disadvantage of carrying on the work with so small a force has been realised in several respects, notably in delay in preparing for constructions authorised, the necessary general designs and details, and also in the overwork to which several members of the corps have been subjected, almost to the point of incapacitating them.

The Bureau calls attention to the propriety of re-adjusting the rank of the officers in this corps, in order that it may be more consonant with the character of the details to which the officers are assigned. A revision is also requested in order to place the corps more nearly on an equality in the matter of rank with other staff corps of similar numbers, as the chaplains, professors, and naval constructors. The Bureau recommends that the rank be revised as follows: Captains, 4; commanders, 5; lieutenant-commanders, 6; lieutenants, 6.

The increase in the expenditures under this Bureau has involved a very large addition to the amount of labour in the way of general administration. With a comparatively small increase of the force the work has been handled, and whatever success with which it has been done is due to the industry, zeal, and efficiency of the staff of officers and others at the yards, stations, and in the Bureau.—*Army and Navy Journal.*

MILITARY NOTES.

PRINCIPAL APPOINTMENTS AND PROMOTIONS FOR JULY, 1901.

Lieut.-Colonel J. Rowlandson, the King's Own (Royal Lancashire Regiment), to be Colonel. Colonel F. T. W. Spratt-Bowring to be a Colonel on the Staff for Royal Engineers, China Field Force, and to have the temporary rank of Brigadier-General whilst so employed. Lieut.-Colonel C. A. Hadfield, A.S.C., to be Colonel. Lieut.-Colonel W. J. Kirkpatrick, C.B., the York and Lancaster Regiment, is granted the local rank of Colonel in South Africa whilst commanding the Volkrust Sub-District. Major-General Sir W. G. Nicholson, K.C.B., from A.G. in India, to be Director-General of Mobilisation and Military Intelligence at Head Quarters. Colonel (local Major-General) G. L. R. Richardson, C.B., C.I.E., I.S.C., to command a Brigade at Shanghai. Lieut.-Colonel and Brevet Colonel A. L. Woodland, C.B., from h.p., to be (temporarily) Officer Commanding the 5th (Northumberland Fusiliers) and the 68th (Durham Light Infantry) Regimental Districts. Lieut.-Colonel C. L. Woollcombe to be A.A.G. for Musketry at Head Quarters in India, and to have the substantive rank of Colonel in the Army. Colonel J. B. B. Dickson, C.B., C.M.G., is placed on retired pay and is granted the honorary rank of Major-General. Colonel J. P. Brabazon, C.V.O., C.B., is granted the honorary rank of Major-General. Colonel (temporary Brigadier-General) G. Henry, from a D.A.A.G. in India, to be Q.M.G. in India and to have the temporary rank of Major-General whilst so employed. Colonel (temporary Major-General) Sir A. Gaselee, K.C.B., A.D.C., I.S.C., from Q.M.G. in India, to command a First-class District in India with the local rank of Major-General whilst so employed. Colonel W. J. Vousden, V.C., C.B., I.S.C., from Colonel on the Staff in India, to command a Second-class District in India with the rank of Brigadier-General whilst so employed. Colonel J. H. S. Craigie, from A.A.G. at Head Quarters in India, to command a Second-class District in India with the temporary rank of Brigadier-General whilst so employed. Colonel J. P. C. Neville, I.S.C., from A.Q.M.G. in India, to be a D.A.G. in India with the temporary rank of Brigadier-General whilst so employed. Lieut.-Colonel W. H. Smart, R.H.A., to be Colonel. Lieut.-Colonel F. H. Hall, C.B., R.F.A., to be Colonel. Brevet Colonel J. H. Spurgin, from h.p., to be Colonel to command the 63rd Regimental District (the Manchester Regiment). Colonel J. Talbot Coke is placed on retired pay and is granted the honorary rank of Major-General. Colonel (temporary Brigadier-General) W. Hill, C.B., I.S.C., to have the temporary rank of Major-General whilst employed as Inspector-General of Volunteers in India. Colonel Sir A. Gaselee, K.C.B. A.D.C., I.S.C., to be Major-General (supernumerary) for Distinguished Service in the Field. Lieut.-Colonel G. H. W. O'Sullivan, R.E., to be Colonel. Lieut.-Colonel J. B. Woon, I.S.C., to be Colonel. Lieut.-Colonel J. A. H. Pollock, I.S.C., to be Colonel.

ARGENTINE.—The re-organisation of the Argentine War Department has taken place in accordance with a recently published law. The Department will, in future consist of three divisions, through which the Minister of War will regulate all matters regarding orders, administration, and preparation of the Army for War. These divisions will be called :—I.—The Military Cabinet. II.—Central Administration. III.—General Staff of the Army. Each division will be under a general or a higher staff officer.

I.—Military Cabinet.

Consists of 12 sections, to which will be entrusted the following duties :—

1. Secretarial, Despatch of entire correspondence, Preparation and despatch of orders, Editing and issue of the *Boletino Militar*.
2. Organisation, Recruiting, Movements of Troops.
3. Education, Regulations, and Military Schools.
4. Infantry Board.
5. Cavalry Board.
6. Artillery and Engineer Board.
7. Arsenals, Powder Manufactories, Laboratories.
8. Military Workshops.
9. Medical and Veterinary Departments.
10. Remount Department.
11. Military Law and Military Chaplains' Departments.
12. Army Lists, Archives, Libraries, etc.

II.—Central Administration.

Has to work out and discharge all administrative business as regards Army affairs ; it is divided into 4 sections, as follows :—

1. Administration Secretariat.
2. Keeping Accounts, Control, Proclamations, etc.
3. Commissariat and Army Administration Register.
4. Discharges, Pensions, Charities, Allowances, etc.

III.—General Staff of the Army.

To this division is entrusted the preparation of the Army for war ; it consists of 6 sub-divisions, viz :—

1. Mobilisation and Assembly of Troops.
2. Military Operations, Study of Theatres of War, Grand Manœuvres, Higher War Schools.
3. Military Geographical Institution, Survey, Topographic, Map-drawing, Chart Depôts, Preparation of the *personnel* of Land Surveyors, and of the Map-drawing Institution.
4. Transport of Troops, Communications.
5. Intelligence, Statistics, Military Information, Study of Foreign Armies, Military Missions.
6. Military History of the Republic, General Staff Archives, and Library.

In addition to the above divisions, another, a Ministerial Secretariat, will be established, to which will be entrusted the discharge of the War Minister's secret correspondence.—*Militär-Wochenblatt.*

Austria-Hungary.—The *Allgemeine Automobil-Zeitung* states that the Austrian military technical committee has ordered a specially designed military transport wagon of the Austrian Daimler Motor Company, of Vienna. It is to have a 10-H.P. motor, though the load the wagon will be expected to carry will not exceed that usually drawn by a 6-H.P. motor. Special attention has been paid to obtaining a low regular rate of speed so that the wagon shall be capable of moving with the troops when progress is slow and not have to stop for the troops to catch up. It will have four rates of speed, and the lowest of these will be rather under 1 mile an hour. It will carry benzine sufficient for a 12 hours' run. The width of its track will be the same as that of a field gun, about 5 feet. The motor will be adapted for use as a stationary engine and will be used, among other purposes, in the working of dynamos for the generating of electricity for search-lights.—*Times.*

France.—As everyone knows, the regulations for Infantry Drill and Manœuvres of the 15th April, 1894, consisted of four volumes ; the draft of the new regulations

only consist of three, and in addition, each of these three is seriously decreased and considerably simplified. Thus, whereas in the old regulations the first two volumes, with a total of 350 pages, dealt with the individual training and with the company training of the soldier, the draft of the new regulations condenses these two volumes into one of 130 pages only. In movements without arms the changes are insignificant, as regards the handling of arms, they are reduced to a minimum. The "port" has been done away with, and the men will only "order," "slope," or "present" arms. As regards musketry instruction, the draft of the new regulations refers instructors to the "Firing Manual." What is, however, a serious innovation that has given rise to much discussion is the suppression of rapid volley firing.

The section will in future align itself by its centre, and will form into column in the same manner as obtains in the cavalry. At the same time, as in the cavalry, the positions of captains and section commanders is always in front of the centre of the troops they command, whether in column or in line. Moreover, all the movements in company instruction are considerably simplified. As regards their execution, the draft confines itself to giving general indications. As regards the second portion of this instruction—that referring to action on broken ground, a portion very copiously dealt with in the 1894 regulations—it only consists of eight pages in all in the draft, including action against cavalry. This is what it says regarding the latter arm:—"Infantry, in whatever formation, has nothing to fear from cavalry, when it knows how to look after itself, makes proper use of its fire at good distances, keeps cool and remains well in hand." In consequence, the old square formation against cavalry has been done away with. The draft of the new regulations merely lays down the principle that "infantry should adopt that formation, which, having regard to the nature of ground, allows it to bring the greatest number of rifles into action." Another curious thing that shows that in the opinion of the Commission, who are responsible for this new draft, infantry need not fear collision with cavalry, is that on an attack by the latter, infantry no longer "fix bayonets," but simply remain ready to open fire.

By this *précis* of the first volume alone it is very evident that the intention of the Commission, presided over by General Lucas, is to allow the greatest possible liberty of action to subordinate units, with the object of obtaining greater flexibility and greater rapidity of execution, as well as to develop the initiative qualities of the cadres. That the Commission lays great stress on this liberty is evident by the care it takes to forbid its restraint by rules tending to carry out various evolutions according to stereotyped form. It even goes so far as to lay down in the first lines of the first volume of its work, that a literal reading of the text of this work should now be exacted.—*Précis from La France Militaire.*

GERMANY.—The Budget of 1901-2 provides for the formation of a machine gun detachment to every army corps. At the same time, for budgetary reasons, only five of these units will be formed on the 1st October, 1901. The machine gun detachments will form an integral portion of the infantry arm, and will be attached to an infantry of Jaeger battalion, just as squadrons of mounted Jaegers are attached to cavalry regiments. Each of these units will be composed as follows:—

3 Officers:—1 captain of the 1st or 2nd Class, 2 first lieutenants or lieutenants.

9 Non-commissioned Officers:—1 sergeant-major, 2 sergeants, 6 corporals (1 of whom is a master farrier and 1 an armourer).

58 Men:—1 re-engaged man, 6 lance-corporals, 50 soldiers (18 drivers), and 1 workman.

43 Horses:—34 draught and 9 saddle.

The *matériel* consists of 6 machine guns and 2 ammunition wagons. The 5 detachments will be thus distributed:—

1 to the Guards, attached to a battalion of the Guard Jaegers.

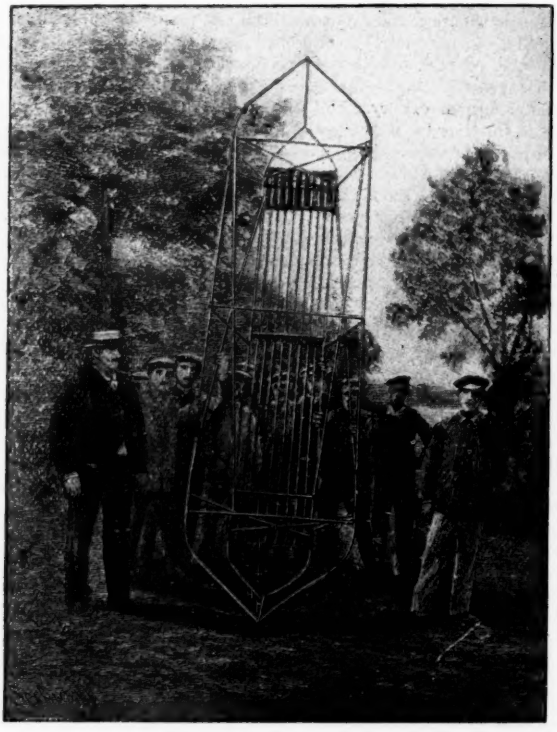
1 to the 1st Army Corps, attached to the 1st Jaeger Battalion.

2 to the XVth Army Corps, attached to the 4th and 10th Jaeger Battalions.

1 to the XVIIth Army Corps, attached to the 2nd Jaeger Battalion.

Gunners will be armed with the carbine, non-commissioned officers and drivers with the artillery sword and automatic pistol.—*Revue Militaire.*

It has always been a matter of no small difficulty to provide bodies of cavalry with suitable vessels for crossing streams. Only in cases of absolute necessity are the horses driven bodily into the water; for in the icy weather of winter and the torrid heat of summer the fording of a river is always accompanied with some danger. It has been the practice of the German War Department to equip each regiment of cavalry with two folding-boats, the value of which has always been rather questionable for the reason that the heavy boat-carrying wagons could follow the main body of men but slowly, and were often enough nowhere to be found when they were actually needed.



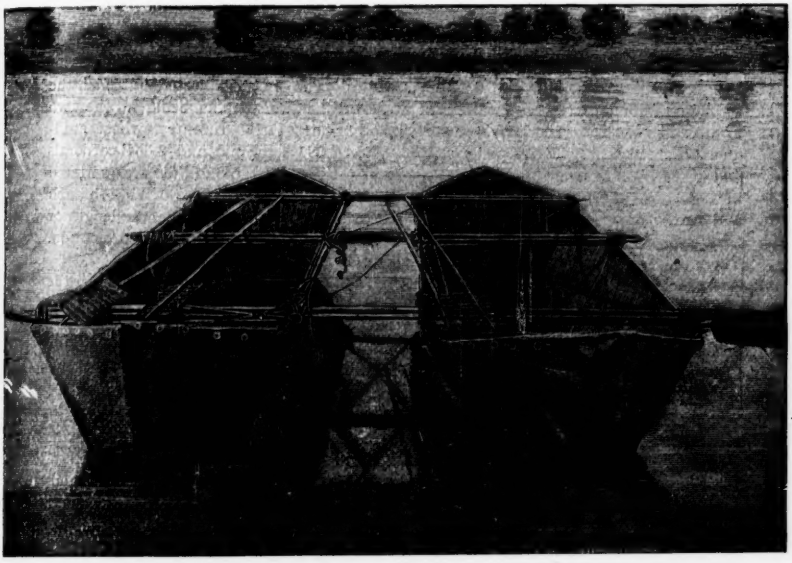
BOAT-FRAME OF LANCES AND CONNECTING-MEMBERS.

The cumbrous folding-boats and their wagons have now been discarded by the German Army for a more trustworthy and more easily carried vessel. The new contrivance is the invention of Herr Adolf Rey and is called a lance-boat, for the reason that its frame is built up by means of the lances carried by German troopers. With twelve or sixteen lances six men can build a boat in five minutes; in two minutes they can take that boat apart. In two minutes the frame is spanned with a waterproof piece of canvas, and the boat is ready for service. Lances suitably covered with canvas

are used as oars. The oar-blade consists of a strip of canvas 2 feet long and 6 inches broad, upon which slats are sewed. Such a rudder-blade can be readily rolled up and thrust into one's pocket.

The connecting members and locking devices used in assembling the boat-frame, together with the rudder-blades, weighs 20 kilogrammes (44 lbs.); the canvas 12 kilogrammes (26 lbs.); in all, 32 kilogrammes (70 lbs.). By reason of this small weight a single horse can carry the parts of two boats.

The strategical value of the invention is obvious. As we have already remarked, every regiment of cavalry was formerly equipped with its wagon and two folding-boats. While the regiment was trotting along on a good road the wagon had no difficulty in keeping up. But horsemen had often enough to cut across country. It therefore happened that the large wagon, weighing some 60 cwt. with the boat, could not



TWO LANCE-BOATS READY FOR SERVICE.

always follow. Sometimes the wagon would stick fast in boggy soil or mud; sometimes it was upset. Thus it happened that for days, as a general rule, no one in a regiment knew exactly where the boat-wagon might be found; and thus it happened that the boats were never at hand when they were most urgently needed. It was practically impossible not only to traverse marshy meadows, but also to cross deep or broad ditches or to follow the small winding paths of a forest. With a horse, on the contrary, carrying the part of two boats, these difficulties disappear. In the quiet, concealed groves which could never be reached with a wagon, a lance-boat can be assembled in a few minutes. The patrols can cross the river at a spot where the enemy would probably consider it impossible for any body of cavalry to ford. Equipped with such boats a mobile squadron thrown into an enemy's country is hampered by nothing. Impassable roads and bridges, which are usually destroyed or rendered impassable by the enemy, can no longer hinder the onward course of the troop.

As we have already remarked, each regiment of German cavalry has been hitherto equipped with one wagon and two folding-boats. The wagon is drawn by six horses

three men acting as drivers, and one officer as a commander. Four men and seven horses are therefore required. The adoption of the lance-boat will dispense with all this unnecessary apparatus. A single horse will now carry the parts of two lance-boats for each squadron. If two folding-boats of the old pattern were to be provided for each squadron, a regiment composed of five squadrons would require the services of twenty men and thirty-five horses. The German cavalry is divided into one hundred regiments. Hence two thousand men and three thousand five hundred horses would be needed to carry along folding-boats. The enormous saving of the lance-boats is therefore evident.

Very quietly experiments have been made with the lance-boats for the past two years. Their success has been such that their adoption has been definitely decided upon.—*Scientific American.*

Germany has only been a Colonial Power for some twenty years, and it is from the acquisition of Kiau-Chau that her need for a Colonial Army on any considerable scale dates. The East Asiatic Expeditionary Force is, of course, supplementary to that ordinarily maintained. The Marine Infantry at present consists of three battalions of four companies each, and two depôt companies. The first is quartered at Kiel, the second at Wilhelmshaven, and the third at Kiau-Chau, the depôts being at the two former places. They are all under the Inspector of Marine Infantry, whose headquarters are at Kiel. Their strength is 66 officers, 325 sergeants, and 2,564 corporals and privates, of whom 18 officers, 112 sergeants, and 1,004 rank and file are quartered in Asia. The officers are drawn from the Army, subject to their choice of that branch and certain special qualifications, and return to it after a certain time, the length of their service in the Marines depending on their age and the exigencies of promotion. There is also a Reserve, or Seewehr, which is officered by :—

a. Officers who are no longer on the Active List, but still liable to service in the Reserve, and who elect to remain in it after the completion of their term.

b. One-year Volunteers who have qualified as reserve officers, or will so qualify on serving eight weeks' camp of exercise. At present there are 89 officers of all ranks in this category.

The Marines are recruited from men becoming liable to naval service, these being all from the coast provinces, and also from Volunteers from the inland provinces, who engage for three or four years. They are intended to garrison the strategical ports of the Empire, besides, of course, supplying ships of war with the necessary men for landing purposes. The rank and file, like ours, are taught a certain amount of seamanship, and the officers make cruises for instructional purposes every year in May, while both are practised in combined manœuvres of the Army and the Fleet. The uniform is dark blue tunic and trousers and cloak of the same, the headgear being a kepi. The men are armed with rifles of the 1888 pattern, and the officers with cutlasses. Company commanders are allowed a horse. The pay and allowances of officers are as follows :—

——	Pay.	Lodging allowance, etc.	Total.
	Thalers.	Thalers.	Thalers.
Inspector, ranking with a brigade commander	4,218	1,136	5,344
„ „ „ regimental commander	3,656	840	4,496
Battalion commander	2,742	638	3,380
Captain, 1st Class	1,828	638	2,466
„ 2nd Class	1,266	638	1,904
Lieutenant	703	337	1,040
Sub-lieutenant	422	337	759

The 3rd Battalion was formed expressly for the garrisoning of Kiau-Chau by each of the two existing battalions detaching two companies, they being in turn made up to

full strength by volunteers from the whole Army. The reliefs are furnished each autumn by the home battalions giving two companies of such strength as to relieve half the foreign service battalion, these being trained in readiness to go out in the spring. It is open to German subjects to serve their time at Kiau-Chau, which may be reduced to one year, and pass into the Reserve there, going through the usual training as Reservists. The total cost of the garrison is 873,940 thalers a year. There is also a small native force with a German staff of captain, lieutenant, feldwebel, vice-feldwebel, three junior and three senior under-officers; it consists of 100 Chinese infantrymen and 20 mounted men, with 2 interpreters and 6 student-interpreters. The cost of maintaining this force is laid down as 12,750 thalers.

The second class of Colonial forces are the Defence Forces, having European staffs, but composed of men no longer belonging to the active Imperial Army, the officers counting as retired, but still at the disposal of the War Minister. In East Africa this staff comprises 45 officers, 73 sergeants, 18 doctors, and some other details, while there are 12 native officers, 120 sergeants, and 2,100 men, divided into 12 companies of 150 men each. Though there is no artillery proper, 56 light guns of various patterns and 6 machine guns are attached to the force. The rifles are Mausers of the 1871 pattern. Horses are of course out of the question, but zebus are often used for regular expeditions. The local troops at the Cameroons and Togo are raised on the same plan, but number in one case only some 250 and in the other some 150, with a solitary European officer. In the south-west, however, we find quite a different system in vogue, volunteers being drawn from the ranks of the Home Army, who have to engage to serve from four to five years in addition to the ordinary term. If at the expiration of that time they wish to remain in Africa, Government gives them a grant to meet the initial expense of settling. There are some mounted infantry, and the men are armed with single-loading Mausers and sword-bayonets; they number 13 officers, with 2 doctors and 2 paymasters, and 540 sergeants and rank and file.

Major Wisemann has further proposed more recently to form a reserve, to be held in immediate readiness to reinforce any threatened point, and composed of time-expired men. Before being sent out they are to be instructed by officers of colonial experience, whose health has broken down, in the necessary conditions of hygiene, with a smattering of the vernacular, the way to deal with the natives, and the like; as also are the young officers before going out. They are to be chosen with a view to acting, in common with the standing forces, as pioneers not less than soldiers. All men sent out should, in addition to proved excellence as infantry soldiers, know how to ride, how to handle a boat either with sails or oars, and have some idea of pioneer's work, more especially carpentry. To put it shortly, the detachments must be able, if necessary, to shift for themselves in all ways, even to killing their own meat and baking their own bread, and a knowledge of the way to take observations, survey, and collect specimens is to be encouraged. Special schools are to be established for the training of men for colonial service, in the first instance, says Wisemann, on a small scale, say 1 battalion, 1 squadron, and 2 batteries of artillery, the requirements in the latter arm being of so varied a character. As already stated, the Expeditionary Force was entirely outside these Standing Forces, being composed of volunteers from the Home Army. At the outbreak of hostilities Germany could only muster 300 men with 4 guns at Tientsin. The two Marine battalions at home were hurried out, each 1,108 strong, with a field battery, some machine guns, and engineers.

In conclusion, a brief description of the composition of the China Expeditionary Force may be opportune. This was originally 2 brigades of infantry, each of 2 regiments of 2 battalions apiece, but these had 8 companies instead of the usual 4, so that each regiment was as strong as one of 4 battalions would ordinarily be. There was also a cavalry regiment of 3 squadrons and 1 of artillery, having 4 batteries of guns and 1 of howitzers, and 2 flying ammunition columns, besides 2 companies of engineers, various details, and infantry and artillery ammunition columns. Upon the appointment of Count Waldersee as Commander-in-Chief of the Allied Forces, the German contingent was at once strengthened. A third brigade of infantry was added, and

also a ninth company to each of the 12 battalions, intended to serve as a reserve and guard the lines of communication. A rifle company was added, and a fourth squadron to the cavalry regiment. The artillery regiment was reformed into one of three brigade divisions, the first two having 2 field and 1 mountain battery each and the third 2 field howitzer batteries, a third company of engineers and a pontoon train equipped with steel boats being also added. There was also created the East Asiatic battalion of heavy field artillery with 2 batteries, and the ammunition columns increased to 7: 2 for infantry, 2 for field artillery, 2 for heavy artillery, and 1 for howitzers. Six field hospitals, instead of four, were attached to the force, and three supply trains.

The monthly rates of pay for officers was laid down as follows:—Sub-lieutenant, 110 thalers; lieutenant, 184 thalers; captain, 276 thalers; major, 414 thalers; colonel, 552 thalers; brigade commander, 645 thalers; and corps commander, 1,105 thalers. In addition, these was issued to officers a travelling allowance of 462 thalers for lieutenants and sub-lieutenants, 552 thalers for captains, and 690 thalers for superior officers. Privates receive extra pay at the rate of 16 kreuzers per diem, and sergeants of 23 kreuzers per diem. A gratuity of 23 thalers was also issued to all the rank and file. As before said, the force was exclusively created out of volunteers from the whole of the Home Army, these being replaced either by calling up a proportionately larger number of recruits or calling out the corresponding number of Reserve men.—*Voïennyi Sbórnik*.

ITALY.—In conformity with the provisions of the new law on emigration, the Minister of War has issued provisional instructions on the recruiting service abroad. The following are the chief provisions of these instructions:—

1. The diplomatic and consular authorities will fulfil the duties of recruiting boards, to whom they will periodically communicate all the decisions they have taken as regards recruiting.
2. In localities situated at a great distance from the consulates and vice-consulates, the diplomatic and consular authorities may delegate their powers to persons of standing, in whom they have confidence, who will account to them for all decisions taken.
3. Conscripts, who are not obliged to return to Italy, must be visited by the diplomatic and consular authorities, who are thoroughly empowered to put back, discharge, enlist, etc., the young men examined.
4. The Minister has caused to be issued, through the Medical Inspector-General, all infirmities in four lists. These lists are for the guidance of the diplomatic and consular authorities in their operations. Thus when infirmities are easily seen and proved, they are able to discharge the conscripts without calling in a doctor.
5. Conscripts obliged to return to Italy to undergo their military service may, before their departure from abroad, produce proof of any infirmity with which they may have been attacked after having been passed fit for service.
6. Consuls should furnish a special certificate to those who are dispensed from active service owing to having been born abroad, or to having emigrated before 16 years of age. This certificate states the right of these youths to dispensation.
7. The benevolent provisions of the new law on emigration are extended to young men who have already drawn the lot, and who have been declared absent from joining. Every facility will be given to allow them to properly regulate their position.
8. Special provisions are laid down in favour of soldiers at present serving with the colours, who, in virtue of the new law on emigration, would have the right to dispensation from active service in peace-time.—*La France Militaire.*

RUSSIA.—According to Article 9 of the Conscription Regulation, the number of men called out each year to complete the military and naval forces is fixed by the Imperial Council, on the proposition of the Minister of War, and is published in the form of an Imperial ukase. The number has been fixed this year at 308,500, and the order only refers to territories of the Empire regulated by the General Law of Recruiting. Thus Finland and the Cossack territories are not affected by this ukase, and their contingents are not included in this number. If this number is compared with those of preceding years, one cannot fail to be struck by the growing military power of the Russian Empire. Last year the contingent was about 297,000 men, and twenty-five years ago it only amounted to 220,000 men. The duration of service in the Russian Army should, besides, be considered, which is in reality for four, and legally for five years. The peace effective of the Empire must thus easily exceed one million men. If the effectives are included—to which the twenty-five classes, liable to be called out in war-time, could furnish on an average about 240,000 men—a total of six million well-drilled men is reached, without including the Cossacks, the Finland contingents, and the Militia, the number of which, though difficult to calculate accurately, would probably double the above amount.

As a matter of fact, the class consists each year of about one million conscripts; if the 300,000 retained with the colours are deducted, there remain 700,000 young men, who would be well able to furnish 500,000 or 600,000 men to the Militia and other auxiliary services, the remainder being sent back as unfit for service.

As is well known, when Finland was united to the Russian Empire, she took measures to guard her institutions, and kept a jealous eye on her privileges. On the other hand, the Russian Government have been endeavouring for some years to place Finland more and more under the general laws of the Russian Empire. When there was a question two years ago of placing the inhabitants under the exactions of the Russian military law, there was a chorus of protestations, and in the face of the expressed intention of Russian statesmen to pursue their work of unification a certain number of Finlanders decided on emigration.

According to the special military law of Finland, the troops furnished by the contingent formed 8 battalions of Finnish rifles each corresponding to the 8 districts of the Grand Duchy. These battalions were only liable in peace-time for service in their own country, and were not obliged to serve out of it, except in the event of general danger to the Empire. The language they used was the Finnish language, at the same time their manœuvre regulations were the Russian ones translated. An Imperial manifesto of the 12th July, has altered the Finnish law of 1878, and has promulgated a fresh regulation on military service in the Grand Duchy of Finland. By virtue of this regulation, Finnish conscripts will be distributed, until further orders, into two corps, which will be recruited for the most part in Finland, viz.: the Finland Guard Rifle Battalion, and the Finland Dragoon Regiment. The 8 Finnish battalions existing at present will be disbanded.

Troops, composed chiefly of Finlanders, are usually quartered in Finland itself, or in the St. Petersburg district. But in war-time, and even in peace-time, they may be sent to other places in Russian territory. A knowledge and the use of the Russian language are necessary conditions to promotion for an officer, and even for a N.C.O. The law will not take effect, as regards conscription, till after 1903. At the same time, commencing from the present year, only the necessary number of young men, to complete the establishments of rifle battalions and dragoon regiments, will be called to the colours.

The period of military service is fixed at 18 years, 3 of which are passed in the Active Army, and 15 in the Reserve. According to Russian law, the period of service is five years, but practically it never exceeds four in the infantry. It is probable that the three years' period adopted for Finland will shortly be extended to the remainder of the Russian Empire. The maintained increase in the annual contingents seems to point that way, and the Russian press admits its probability. The chief supervision of the recruits, especially in Finland, is centered in the Russian Minister of War. They

may be mobilised by calling out the reserves, by an Imperial rescript to the Finnish Senate. In Russia reservists are alone exempt who occupy State billets; in Finland the exemption extends to those who are in commercial employment or in railway service.

Russians who are officers, or who are promoted to be officers, in the Finland Contingent, acquire from that fact alone the rights of Finnish citizenship, retaining the rights they already possess in Russia. Regulations relating to retirement, expenditure, and exemption, are almost the same as in Russia. But in Finland those who have lost a father or mother are exempt from service in peace-time, when they themselves administer landed property which has been left them. This exemption does not exist in Russia. Besides this, young men who have been through secondary instruction establishments, or who have passed a corresponding exit examination, have only got to complete one year instead of two years of service, as is the case in Russia. Institutions charged with recruiting operations in Finland are the same as in Russia, but they are differently composed. Thus the Government Military Board, presided over by the Governor, consists of a field-officer (nominated by the military authorities), two civilian members (nominated by the Governor), and a secretary. In the district the Board is presided over by the military commandant, whereas in Russia a local nobleman undertakes this duty.

To sum up, the new law is founded on the same principles as the Russian, and its object is to make the Finnish into regular Russian troops. It accords, at the commencement, certain favours to the population, so as to accustom them gently to the new *régime*. These favours have, even at the present time, a marked importance, because they contain at the same time a decrease in the contingent, and also a decrease in the period of service. But the essential tendency of the new law is to take from Finland its distinctive individuality from a military point of view.—*La France Militaire*.

The *Rouskii Invalid* has recently published an Imperial order of 18th June last, which re-organises on a new basis all the Junker infantry, cavalry, and Cossack schools. The re-organisation of these schools has for its special object to raise the standard of instruction of the officers who come from them :—

1. All Junker Schools will each consist of one general and two special classes. The programme of general knowledge corresponds with that of the six classes of the Medium Instructional Establishments. The programme of military knowledge is raised to the standard of that of military schools.

2. In addition to those enlisting voluntarily and those called to the colours, young men having the right to enlist voluntarily in the 1st and 2nd Categories, and being sixteen years of age, may enter direct into the Junker Schools without having first served in a regiment.

3. These young men will be admitted in 1901 in the General Class only: in 1902 in the General and in the 1st Special Classes : from 1903 in all three classes.

4. Admission to the schools will take place under the following conditions :—

a. To be admitted to the *General Class* : First, young men who are entitled to enlist voluntarily in the 1st Category, but who cannot have access to the military schools ; secondly, young men who have undergone the entrance examination laid down by the Minister of War.

b. To be admitted to the *1st Special Class:* First, without examination, youths in possession of a certificate stating that they have thoroughly followed the curriculum of the Medium Instructional Establishments : secondly, after an examination in the Russian language, mathematics, and physics (the programme of the General Class in the Junker Schools), all young men entitled to enlist voluntarily in the 1st Category, but not having access to the military schools ; thirdly, young men who have passed an examination in all the subjects taught in the General Class at the Junker Schools, and also in drawing and the regulations.

c. To be admitted into the *2nd Special Class:* All youths who have passed an examination in all the subjects of general and military instruction taught in the General and in the 1st Special Classes.

Candidates for the Junker Schools should address their applications on 1st July to the commandant of the school they have selected, and should present themselves for examination at that school on 15th August. All young men entering the Junker Infantry Schools are instructed and equipped at the expense of the State. As regards those admitted to the Junker Cavalry Schools, two-thirds are maintained at State expense, and one-third at their own expense. The commandants of the schools will select the Junkers to be admitted gratuitously. After the final classification the Junkers are placed on three lists.

Those classified as on the 1st List, that is to say, having obtained an average of 10 points, are promoted sub-lieutenants with an ante-date of one year. The Junkers classified as on the 2nd List, that is to say, having obtained an average of at least 7 points, are gazetted sub-lieutenants from the date of their leaving the school. Finally, those classified as on the 3rd List, on account of not having obtained a sufficient average, are sent to the ranks as non-commissioned officers. Nevertheless, they may be gazetted sub-lieutenants should their commanding officers consider them fit, but only one year after the date of the promotion of their school comrades, and only if there are vacancies.

The Junkers classified on the 1st and 2nd Lists take seniority, on joining their regiments, immediately junior to officers of similar lists who come from military schools. Junkers of the 1st and 2nd Lists are entitled, on leaving school, to an indemnity of 300 roubles; those of the 3rd List only receive an indemnity of 50 roubles, and get the difference (250 roubles) when they are promoted sub-lieutenants.

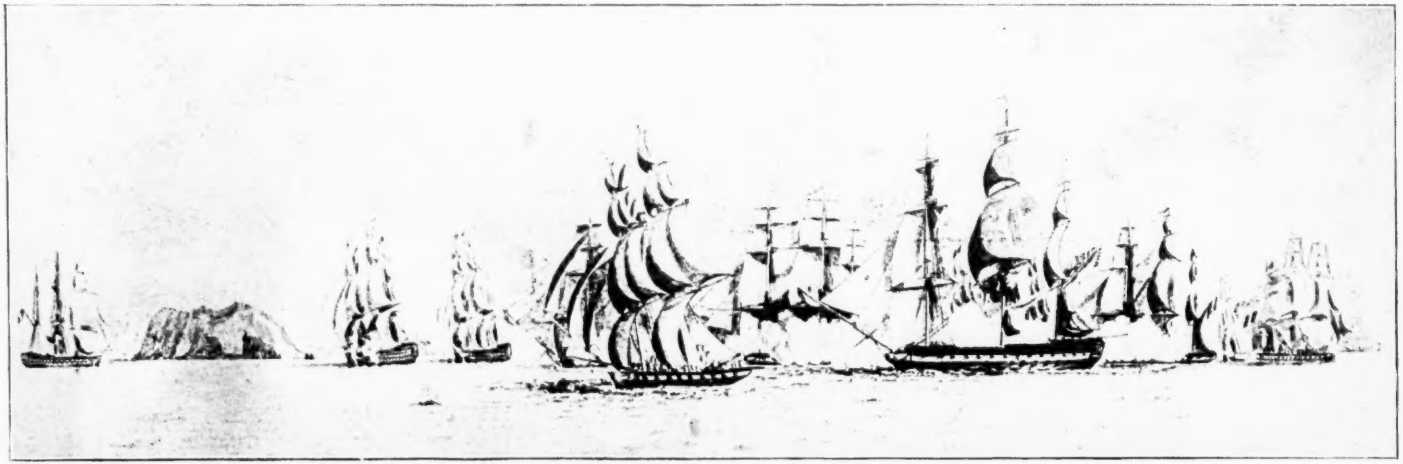
The Junker School at Irkutsk has been turned exclusively into an infantry school for 100 pupils, and its Cossack section has been transferred to the Cossack Junker School at Orenburg. All other Junker infantry schools have an effective of 400 pupils. The Cossack Junker Schools at Orenburg and Novotcherkask have 120 pupils each. The Junker Cavalry Schools at Tver and Elizabethgrad receive, the first 150, and the second 300 pupils. From the 1st September next the general classes at the Junker schools will be sub-divided into a certain number of sections, each consisting of 35 pupils.

SWITZERLAND.—The commanders of the fortifications of St. Gothard and of St Moritz have respectively the rank of colonel commanding a division, and of colonel commanding a brigade. They have the chief supervision of the instruction of the troops attached to these places, are responsible for the administration, and, in time of war, direct the operations in the district. They have under their orders staff officers of artillery, engineers, and of the auxiliary services; at the same time the greater part of these officers, as well as the commanders of the fortresses themselves, do not hold their positions permanently. The only persons who form a part of the permanent cadre are 1 colonel or lieut.-colonel as Chief of the Artillery, 1 colonel or lieut.-colonel as Chief Engineer officer (of the St. Gothard only), 1 gunnery officer, 2 administration officers, and 1 assistant (2 at St. Moritz), 3 officer secretaries, and 1 doctor (at St. Gothard only).

This permanent *personnel* forms, in each of the two fortifications, a "Fortification Bureau," under the direction of the Chief of the Artillery. This latter is, in peace-time, the fortress commandant, and chief instructor of siege artillery. The inferior permanent *personnel* consists of a certain number of artillery and commissariat and N.C.O.'s, of mechanics and firemen, as well as 150 men of the guard for the St. Gothard, and from 50 to 60 at St. Moritz. The special workmen and men forming the guard are engaged as required, and under similar conditions provided for in civil contracts. The engagement only becomes definite after 15 days, and may be rescinded at the end of each month by either party at three weeks' notice. The daily pay of N.C.O.'s varies from 4 francs to 4 francs 50 centimes, that of the guard from 3 francs 50 centimes to 4 francs. One franc of this is kept back for rations.

The troops for the defence of the St. Gothard are composed of :—2 battalions of Regular infantry; 2 infantry Landwehr regiments of 4 battalions each, from the 1st and 2nd Levies; 2 fortress artillery divisions, consisting, the one of 2 gunner companies and 1 observer company, and the other of 4 gunner companies and 1 observer company, 2 machine gun companies; 1 division of position artillery, consisting of 2 Regular and 1 Landwehr companies; 1 company of fortress sappers; 4 sapper companies and 1 Landwehr company of telegraphists. These have a total effective strength of 13,082 men according to the lists of the 1st January, 1900.

The troops for the defence of St. Moritz consist of :—2 Regular battalions; 2 Landwehr infantry regiments of 2 battalions each from the 1st and 2nd Levies, 1 fortress artillery division, consisting of 2 gunner and 1 observer companies; 1 machine gun company; 1 detachment of position artillery, consisting of 1 Regular and 1 Landwehr company; 1 company of fortress sappers; 1 sapper and 1 Landwehr telegraph company. These troops amount altogether to 6,433 men. The effective of the permanent guard not being sufficient to ensure these places against surprises during the mobilisation period for the defence troops, the commanders of the St. Gothard and St. Moritz fortifications have at their disposal, in order to guard against that eventuality, men called Valley Guards (*Thalwehren*), which consist of all the able-bodied men (Regulars, Landwehr, and Landsturm) of the districts in the neighbourhood of these places, and within a certain fixed radius. These guards are broken up, and the men composing them rejoin their units as soon as the mobilisation of the defence troops has been completed. An experiment in the mobilisation of the district guard of the St. Gothard took place on the 20th May last. The communes interested had been warned some days beforehand without fixing the date. The order to mobilise on the 20th at 4 a.m. was telegraphed from Andermatt the previous evening. At the hour named the alarm was given in all the communes. According to the *Revue Suisse Militaire*, the troops arrived rapidly, armed and equipped, at the posts they were detailed for. Those furthest away had to either march for 5 hours, or go by rail for 1¾ hours. Small detachments were assembled in from 1¼ to 3 hours. The troops were disbanded the same day after an equipment inspection. The experiment proved, says the *Revue*, that the organisation of the district guard was in perfect working order.



CORRESPONDENCE.

To the Editor of the JOURNAL OF THE ROYAL UNITED SERVICE INSTITUTION.

SIR,—The interesting account in the May number of the JOURNAL of the narrow escape from capture of the "Crescent" (Sir James Saumarez) in 1794, emboldens me to request the insertion in the U.S. JOURNAL of a somewhat similar incident which occurred in the year 1810.

My father, Captain John Halliday (afterwards Admiral Tollemache), in command of the "Repulse" (74 guns), was cruising off the coast of Toulon in the month of August of that year. On the morning of the 31st he fell in with a division of the French Toulon squadron, consisting of the 120-gun ship "Majestueux," with some line-of-battle ships and frigates, in full pursuit of the British 18-gun brig "Philomel." Halliday at once made sail for the enemy, and bringing to, astern of the brig, he opened so steady and well-directed a fire upon the three headmost French frigates, "Pomone," "Penelope," and "Adrienne," that in a quarter of an hour they abandoned the chase and rejoined their line-of-battle ships, now far advanced towards the "Repulse," when the whole squadron wore round and stood back to Toulon, giving up all idea of capturing the "Philomel." At the time this daring act was performed the British fleet was out of sight to leeward, except the "Warspite" (74) and the "Alceste" frigate, which were about nine miles distant.

It is said in "James' Naval History" that the officers and ships' companies of the two British ships within sight of the occurrence must have felt their hearts bound with delight at the spectacle they had witnessed. The brig was commanded by Captain Guion, who made signal "Well done, 'Repulse'; you have repulsed the enemy and nobly saved us."

The subjoined letter is from the Admiral on the station, Sir Charles Cotton :—

"'San Josef,' off Toulon,

2nd September, 1810.

"SIR,—Captain Guion has delivered your letter of yesterday's date, and in return thereto I have to express my admiration of the gallant and determined measure you adopted on the 31st ultimo, and which had the effect of preserving the 'Philomel,' and probably the 'Alceste' also, from falling into the enemy's hands. I request your acceptance of my warmest thanks for your conduct on this occasion.

"Your obedient servant,

"Captain Halliday, 'Repulse.' C. COTTON."

It seems passing strange that the writer of this letter, in his despatches to the Admiralty, should have made no mention whatever of Captain Halliday's gallant service, which remained without official recognition, and but for the mention of it in "James' Naval History" would remain without record of any kind.

Yours faithfully,

W. A. TOLLEMACHE,

Late 2nd Life Guards.

NAVAL AND MILITARY CALENDAR.

JULY, 1901.

1st	(M.)	Colonel Grenfell captured 93 Boers at Hopewell, besides wagons and ammunition belonging to Beyer's commando.
„	„	The British handed over those portions of Peking which had been under their control to the Chinese authorities.
3rd	(W.)	Launch of first-class armoured cruiser "Leviathan" from yard of J. Brown & Co. at Clydebank.
„	„	An Anglo-Egyptian force occupied the Bahr-el-Ghazal.
4th	(Th.)	Lord Kitchener announced that the Boers wrecked a train south of Pietersburg; an officer and 18 men were killed.
„	„	Commandant Barkhuizen and his commando were captured by Rimington's Guides near Edenburg.
5th	(F.)	Launch of first-class armoured cruiser "Dupetit-Thouars" at Toulon for French Navy.
„	„	H.R.H. the Duke of Cornwall and York held a review of the Tasmanian Volunteers at Hobart, and presented South African War medals.
„	„	Roodeport Station was burned by the Boers. They were subsequently driven off with loss.
6th	(Sat.)	H.M.S. "Racoon" paid off at Sheerness.
7th	(S.)	The 4th Bn. Gloucestershire Regiment (Militia) left St. Helena for England on the "Mohawk."
8th	(M.)	The 2nd Bn. Royal Warwickshire Regiment left Cape Town for Bermuda on the "Manilla."
11th	(Th.)	H.M.S. "Albion" left Sheerness for China.
„	„	Lord Methuen captured a Boer laager and many prisoners near Zeerust.
12th	(F.)	The 4th Bn. Royal Lancaster Regiment (Militia) left Cape Town for England on the "Idaho."
13th	(Sat.)	General Broadwood surprised the town of Reitz, capturing the whole of the Orange River Colony (so-called) Government, with the exception of Mr. Steyn, who escaped.
„	„	An Anglo-Indian force was sent to destroy a fort erected by Turkish troops near Aden.
„	„	The 3rd Bn. South Lancashire Regiment (Militia) left Cape Town for England in the "Pinemore."
15th	(M.)	H.M.S. "Blake" paid off at Devonport.
16th	(T.)	Mobilisation for Manœuvres commenced.
17th	(W.)	Launch of first-class battle-ship "Cornwallis" from Thames Shipbuilding Works, Blackwall.
„	„	H.M.S. "Linnet" paid off at Sheerness.
„	„	H.M.S. "Salamander" paid off at Devonport.
„	„	The Somali Mullah was again defeated by a British force.
18th	(Th.)	Lord Kitchener telegraphed some details of Boer correspondence seized at Reitz, showing the desperate condition of the enemy.
„	„	Lord Kitchener accepted a further offer of mounted troops from Queensland.
19th	(F.)	The 4th Bn. South Staffordshire Regiment (Militia) left Cape Town for England on the "Lake Erie."
„	„	Major Pine-Coffin surprised Cellier's commando, capturing 14 Boers, including two of General Prinsloo's sons.

21st (S.) Commandant Scheepers captured a train containing 113 British troops and stores near Branfort West; 3 British killed and 18 wounded.
" " Commandant Kritzinger attacked 300 British under Colonel Crabbe. The latter, after fighting all day, retired on Mortimer with slight loss.
" " Commandant Lategan's laager at Tweefontein was rushed by the British; 10 prisoners were taken, besides horses, rifles, and ammunition.
" " A Boer convoy was surprised near Reitzburg, and 25 prisoners taken.
22nd (M.) H.M.S. "Widgeon" arrived at Plymouth from the Cape.
" " A determined attack by the Boers on Aberdeen was repulsed.
23rd (T.) H.M. Yacht "Victoria and Albert" commissioned at Portsmouth.
25th (Th.) The 4th Bn. Gloucestershire Regiment arrived at Southampton from St. Helena on the "Mohawk."
26th (F.) H.M. the King, accompanied by H.M. Queen Alexandra, presented war medals to the Imperial Yeomanry on the Horse Guards' Parade.
" " A Boer attack on a refugee laager at Aliwal North was repulsed.
29th (M.) War declared between B and X Fleets at 9.30 a.m.
" " H.M. the King presented war medals at Marlborough House to 500 soldiers and military nurses for services in South Africa and Ashanti.
31st (W.) H.R.H. the Duke of Connaught, on behalf of H.M. the King, presented South African War medals to the 9th Bn. King's Royal Rifles (Militia) on their disembarkation at Queenstown.

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June, 1901.—"The Operations of Platoff in the Rear Guard of Bragation in 1812." "The Stay of the Russians in France in 1815 and 1818" (*continued*). "Wood Fighting." "The *Rôle* of Infantry in a Modern Action" (*concluded*). "Remarks on Artillery." "Special Instruction of Engineers." "The St. Petersburg Mutual Help Society" (*continued*). "Voyage to Mecca." "Command without Vocation." "The English Land Forces on the Eve of Reform." "War."

July, 1901.—"The Action of Tachskissen on the 19th December, 1877." "The Operations of Czachowski and Kononowiez in the Radom Division in 1863." "Contribution to the History of the Kokan Expedition." "First Steps in Remount Reform." "Remarks on Artillery" (*concluded*). "Perfected Model of a Spade for Infantry." "The St. Petersburg Mutual Help Society" (*concluded*). "Transport of Masses of Troops and Military Baggage between Irkutsk and Irtensk in 1900." "The Ice-breaker, the 'Ermak.'" "Voyage to Mecca" (*concluded*). "Extracts from the Diary of a Tourist Horseman." "New Measures Regarding the Organisation of the Corps of Officers in Germany and Austria-Hungary." "War."

SPAIN.—*Memorial de Ingenieros del Ejército.* Madrid : July, 1901.—"Electro-Motors for Auto-Mobile Vehicles." "The Barr and Stroud Range-Finder." "Light Apparatus for Field Optical Telegraphy." "Foreign Military Notes."

Revista Técnica de Infantería y Caballería. Madrid : 1st July, 1901.—"Military Justice since 1900." "A Study on the Spanish-Portuguese Strategical Frontier." "On the Grand Manœuvres." "On the Nourishment of Draught and Saddle Horses on Molasses-Food." "Bayonet Attacks before the Days of Small-bore and Repeating Rifles." 15th July.—"Military Justice since 1900." "A Study on the Spanish-Portuguese Strategical Frontier" (*continued*). "Formations of Battle." "The Instruction of Cavalry in Peace." "False Reports of the Anglo-Boer War." "Bismarck, Moltke, von Roon."

SWITZERLAND.—*Revue Militaire Suisse.* Lausanne : July, 1901.—"Some Battalion Battle Formations." "An Infantry Wagon." "A new Telemetric and Topographic Instrument." "The Organisation of Engineers in the Swiss Army." "About a Tactical Scheme."

UNITED STATES.—*Journal of the Military Service Institution.* Governor's Island. New York : July, 1901.—"Artillery Organisation." "Clothing and Equipment." "Meat Ration in the Tropics." "The Negro Volunteer." "Visit of the Allies to China." "Campaign in Orange Free State." "Translations and Reprints." "Comment and Criticism." "Reviews."

BOOK NOTICE.

The Military Life of Field-Marshal George, 1st Marquess Townshend, 1724–1807. By Lieut.-Colonel C. V. F. TOWNSHEND, C.B., D.S.O., Royal Fusiliers. London: John Murray, 1901.

George, 4th Viscount and 1st Marquess Townshend, eldest son of the 3rd Viscount, and godson of George I., was born 28th February, 1724. On leaving St. John's College, Cambridge, in 1742, he persuaded his father to let him serve a campaign as a volunteer. Through family interest he was attached to the Staff of the Earl of Dunmore, commanding a division under the Earl of Stair in Flanders. In this capacity Townshend was present at the Battle of Dettingen. Colonel Townshend devotes forty pages to Stair's campaign in Germany. We think four pages would have been sufficient for an oft-told tale. We cannot agree with Colonel Townshend when he says (p. 27) that with the exception of Ligonier's Horse the British cavalry did not distinguish themselves at Dettingen. A letter in the *London Gazette* of 16th July, 1743, says that "Ligonier's Horse and Bland's Dragoons suffered most and gained great reputation." Unfortunately Colonel Townshend has got entangled in the maze of regimental names and titles, and refers to Bland's Dragoons (p. 26) as the present 13th Hussars. The last-named corps was not even at Dettingen, but Bland's Dragoons, the present 3rd Hussars, played a leading part in this engagement and a trooper of this regiment, the valiant Tom Brown, captured a French standard at the infinite hazard of his life. Colonel Townshend gives a graphic and masterly account of Fontenoy. He visited this and other European battle-fields mentioned in his work, which fact adds greatly to its interest. And the extracts from George Townshend's diary relating to Dettingen, Fontenoy, and Laffeldt have a special value of their own. No one can peruse these same extracts without seeing at a glance that George Townshend was a man of culture and knew the *métier* of a soldier better than many older officers. But as regards the extract from Townsend's diary (p. 65), explaining the defeat at Fontenoy, we are strongly of opinion that the lines in question were written long after the battle was fought; the allusion to Voltaire, the picturesque but untrustworthy historian of Fontenoy, leads to this conclusion. Before leaving Fontenoy we must point out that the "incident which has become famous in history" quoted by Colonel Townshend (p. 62) has now been proved to have been a pure French fabrication. Instead of Lord Charles Hay of the 1st Foot Guards courteously asking the French Guards to fire first, he stood in front of his battalion, took a long pull at his flask, and shouted to the French Guards that "he hoped they would stand till he got quite up to them, and not swim the Scheld as they had the Maine at Dettingen," then coolly turned his back on them to tell his own men that "their foes were the French Guards and he hoped they would thrash them." This latter account is the version given by Hay himself in a letter written from hospital after the action.

On 8th May, 1745, Townshend was appointed A.D.C. to the Earl of Dunmore, and on 29th May Captain in Bligh's (20th) Foot. With the last-named corps he served at Culloden, and was shortly afterwards appointed to the personal Staff of H.R.H. the Duke of Cumberland, Commander-in-Chief in Flanders. Townhsend was sent home with despatches after the Battle of Laffeldt, and in February, 1748, was gazetted to a company in the 1st Foot Guards. Returning to Flanders he saw the sorry campaign out. Townshend's criticisms on the conduct of military affairs in Flanders (pp. 117-120) were sadly true, but by no means complimentary to the Duke of Cumberland. In 1757 Townsend resigned his commission in the Guards, differences having arisen between him and the Duke of Cumberland, Commander-in-Chief of the Army. Colonel Townshend tells us little about this quarrel, but other writers partly attribute it to Townshend's political cartoons, which gave great offence to those who were caricatured, and

a pamphlet directed against Townshend, entitled "The Art of Political Lying," appeared in 1757. The Duke of Cumberland's retirement into private life afforded Townshend, a keen and patriotic soldier, the chance of returning to his profession. Through Pitt's influence Townshend received a colonel's commission and was appointed to command a brigade under Wolfe in the expedition to Quebec. Wolfe's letter to Townshend (p. 143) is ample proof of the former's friendly disposition to the latter.

The *pièce de résistance* of Colonel Townshend's book is his narrative of the Siege of Quebec, in which he gives copious extracts from Townshend's journal. These extracts are of historical value and make us wish that the whole of the journal in question had been forthcoming. Colonel Townshend prints two valuable original documents (pp. 203–206) which prove that after the grave disaster at the Montmorency River Wolfe took his three brigadiers into his confidence; that they all three were against Wolfe's plan of attacking the French on the Beauport side, and suggested the plan for taking Quebec, which Wolfe adopted with such signal success. We go entirely with Colonel Townshend in thinking Townshend proved himself an able commander when the chief command of the troops devolved on him during the crisis of battle on the heights of Abraham; but had he the staying power, the tact, judgment, and temper to command an army for any length of time? There is no doubt whatever that the relations between Wolfe and Townshend became strained during one of the most trying sieges on record. Townshend barely alludes to Wolfe's death in his despatch to Pitt, announcing the capture of Quebec, and it was this omission which called forth the resentment of the British public when mourning for the death of their hero. The letter quoted by Colonel Townshend in his preface purporting to be from Townshend to a friend, in which the writer expresses his deep regret at the loss of his friend General Wolfe, is of no value whatever—it bears no address, no date, no signature; nor is it stated where the original letter is preserved.

Space precludes us from following Townshend through his subsequent campaigns in Germany and Portugal, his campaign at home with pamphleteers, his famous Militia Bill, his duel with the Earl of Bellamont. Suffice it to say that Colonel Townshend's book, which is well illustrated, is a valuable addition to military history. It is our duty to point out a few errors and misprints. On p. 62 Lord Hay ought to be Lord Charles Hay. On p. 74 Handasyde's Regiment is said to be the 16th Foot; the 16th were not at Fontenoy, but the 31st Foot, commanded by another Handasyde, took part in that battle. On p. 76 the 31st Foot is wrongly called Major-General Howard's. In the list of officers killed at Laffeldt, given on p. 112, Lieut.-Colonel Williams is described as an officer of Howard's Buffs, whereas he belonged to Howard's Greens, the 19th Foot. The date of Townshend's promotion to the rank of Field-Marshal is given on p. 324 as 1793; it ought to be 30th July, 1796. In the way of misprints we notice Lord Ancrum's name is given as Ancram on pp. 52 and 71. And in the Duke of Cumberland's speech to his soldiers, quoted on p. 97, the words "stand but" ought surely to be "but stand." Emphasising certain words by italics in the text, as on p. 231, does not, from a literary point of view, enhance the value of the author's remarks.

PRINCIPAL ADDITIONS TO LIBRARY DURING JULY, 1901.

The Oxfordshire Light Infantry in South Africa, 1900-01. Edited by Lieut.-Colonel A. F. MOCKLER-FERRYMAN. 8vo. London, 1901.

Regimental Badges worn in the British Army One Hundred Years Ago. By EDWARD ALMACK. 7s. 6d. 8vo. London, 1900.

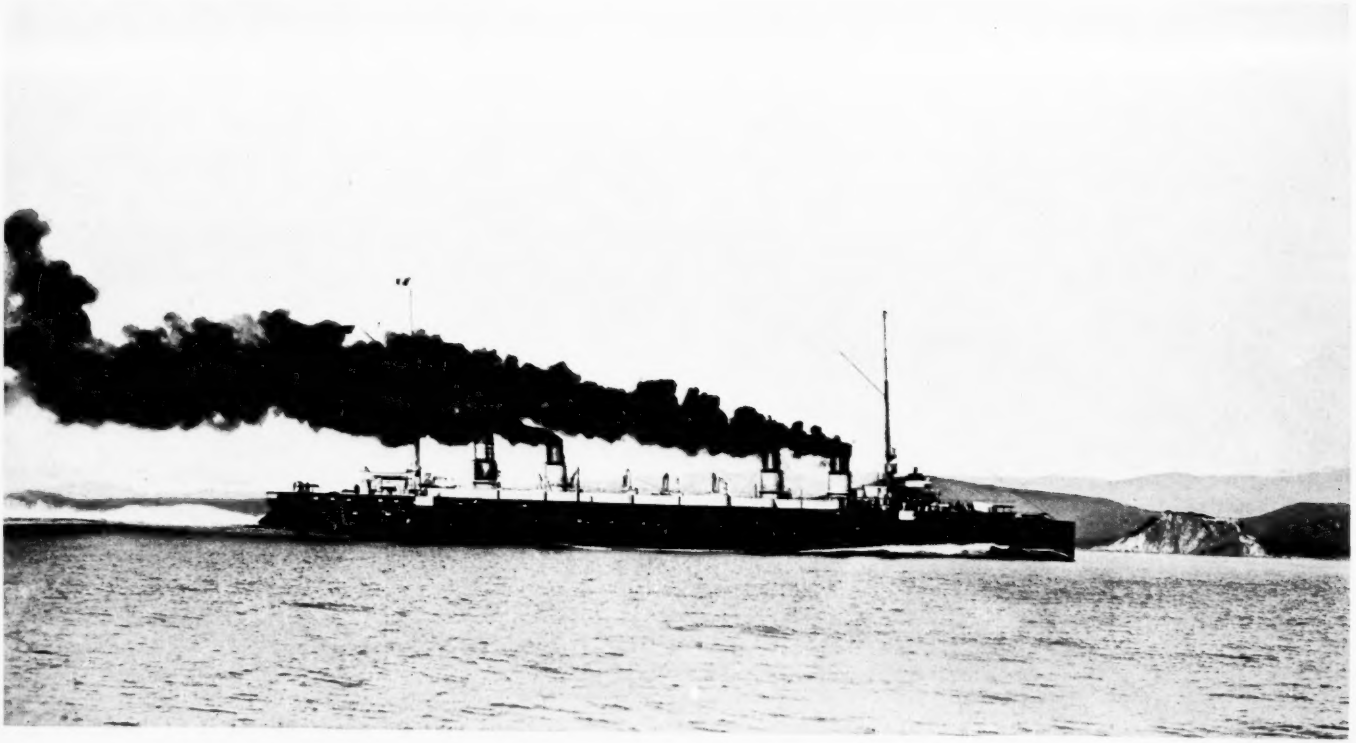
How to Check a Pay List. By Captain G. W. REDWAY. 2s. 6d. Crown 8vo. London, 1901.

Patrolling in South Africa. By Lieutenant C. F. VANDER BYL, 16th Lancers. 9d. Demy 12mo. Aldershot, 1901.

Army Act Revised to 1901. Official. 8vo. London, 1901.

Military Report of the Mishmi Country. Published by the Intelligence Branch Q.M.G.'s Dept., India, by Lieutenant G. L. S. WARD, 44th Gurkha Rifles. 8vo. Simla, 1901.

Minutes of Proceedings of the Institution of Civil Engineers. Vol. CXLIV. 8vo. London, 1901.



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